THE GRAMMAR
OF
EMAKHUWA VERBAL EXTENSIONS

An Investigation of the Role of Extension Morphemes
in Derivational Verbal Morphology
and
in Grammatical Relations

Thesis Submitted for the Degree of
Doctor of Philosophy
by

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I find this occasion particularly appropriate to recall one particular riddle my late mother used to say whenever one of us forgot to say: "thank you". In English the riddle goes approximately like this:

"In a celebration of success
the uninvited guest
is the best
Who is it?"

"Gratitude"

The risk of trying to thank people who helped in a successful adventure by mentioning them is that, not seldom, some are forgotten. I hope "Gratitude" will not be left out in this acknowledgment, if I fail to mention all those who have helped me to accomplish this research. The list is vast. It includes people from different continents and of all walks of life: scholars, institutions, politicians, peasants, family and friends. To all of them I wish to convey my words of gratitude for their extremely useful support and my apologies if, through my own intuitions, I have betrayed them by mis-representing their contributions in this work.

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One of significant achievements of this research is thus, having *produced* a friend with whom I can talk on Emakhuwa (or *even in Emakhuwa*!) without finding the subject boring.

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"Waapaca mwiiliyale, weetta owaale naanaano"!
Forget not crawling, [for] walking has just arrived
[Don't throw away your old clothes, for you may need them again!]

This Emakhwua dictum reminds me of old friends, colleagues, family and, of course, the informants whose contribution has been decisive for this work to see the light. To all of them I say: **osukhuru, olata nikokho**, "no matter how little your contribution has been, I thank you, all".

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Finally, I would like to say a word of special gratitude to my mother who passed away while this work was in process. To her and to all **Annamaama** "all my mothers", women peasants, in the land of "Amakhuwa", the best custodian of our language, I dedicate this work and ask them to accept it as a tiny contribution to their custodianship.

ABSTRACT

The central concern of this thesis is a group of derivational suffixes characteristic of the Bantu languages known as verbal extensions yielding such derived verbs as causative, frequentative, passive, reciprocative.

The study is based on a textual corpus from Emakhuwa, a Bantu language of Mozambique, supplemented by the author's native knowledge of the language. The theoretical background is provided by Lexical Functional Grammar (Bresnan (1982)), which provides a means of relating theta roles (agent, instrument, theme etc.) to grammatical functions through the Lexical Mapping sub-theory.

After exploring in chapter two the morphology of these suffixes and their suppletive relationship within the lexicon, chapter three examines the syntax of primitive verbs, classified principally as ergative, unergative and unaccusative. In this analysis "objecthood" and "restrictedness" prove difficult to establish, since object cliticization is largely restricted to human reference, while passivization (chapter five) is applied to all roles below the highest, including roles such as time and manner, normally perceived as adverbial. Furthermore, word order is little constrained and not decisive of function. Certain constructions allow variable mapping of roles to functions and introduction of supplementary objects corresponding to co-referent patients or reason, but without morphological verbal indexation.

Focus in chapters four and five is narrowed to thematic extensions adding or dropping roles.

The applicative introduces a beneficiary, instrument or goal, interpreted partially according to animacy; the repeated extensions may introduce multiple roles.

The causative constructions include the inductive, introducing a reason/instrument role with optional suppression of agent and/or theme.

The reciprocative may have a quasi-causative reading introducing an involved but unequal participant.

Uses of these extensions with the passive and stative, singly or in combination, are systematically explored.

The conclusion casts doubts on the adequacy of theories relying heavily on the traditional morpho-syntactic manifestations of object.

ABBREVIATIONS:

acc.	Accusative construction
adj	Adjective
ag	Agent
appl	Applicative morpheme
ben	Benefactive theta role
COMP	Complement
cp	Copula or connective particle
cse	Causative morpheme
csee	Causee object
deft.	Default classification
dm	demonstrative
f.u.	Functional underspecification
gn	Genitive
go	Goal theta role
gp	genitive particle
i.c.	Intrinsic classification
inst	Instrument theta role
L_1, L_2 etc.	Morphological layers in which extensions occur
loc	Locative
NCOMP	Nominal Complement
ng	negative marker
nm	Numeral
NP	Noun Phrase
OBJ	Primary object
OBJ_2	Secondary object
OBL	Oblique object
om	Object marker
1.om	Object marker of class 1.
1sg.om	Object marker of 1st. person singular
pl	Plural
pN	Proper noun

pos	Possessive
PP	Prepositional phrase
pro	pronoun
psv	Passive morpheme
rat	Rational theta role
rcp	Reciprocative morpheme
rec	Recipient theta role
refl	Reflexive pronoun
rm	Relative grammatical subject marker
rs	Relative logical subject marker
SCOMP	Sentential complement
sg	Singular
so	Source theta role
sp	Subject prefix
7.sp	Subject prefix, sp. of class 7
ø.sp	3rd.person cl.1 subject prefix
stv	Stative morpheme
SUBJ	Subject
th	Theme
tm	Tense marker
[T_n]	Extract from text n.
[*]	Self-provided example
θ	Theta role
θ_{acc}	Theta role introduced by accusative construction
θ_{appl}	Theta role introduced by "applicative" lexical rule
VP	Verb Phrase
w.f.	Well-formedness condition
X_θ	X is a restricted theta role
*X	X is an unacceptable example
[-1]	Nouns which lack cliticization properties, i.e., [classes 3 - 18]
[1]	Gender of nouns triggering cliticization, i.e., [cl.1/2]

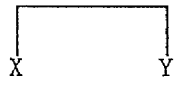
Apart from their canonical use the following symbols are used to mean:

[ ] demarcation of a lexical item or properties of a lexical item, e.g.:

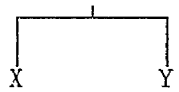
NP [hum, anim]

(X) Optional occurrence of X

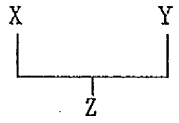
{ X, Y } Members of a paradigmatic set



X and Y are co-referential



X and Y are members of a set or category



Z is a product of fusion of features of X and Y

CHAPTER 1: THE BACKGROUND AND SCOPE OF RESEARCH

1.0 Introduction

Amongst universal features of human language the verb takes a prevailing position inasmuch as it is taken as the central unit of a sentence. For instance, Baker's Incorporation (1988) takes the verb as the pivotal lexical unit from which his "theory of grammatical function changing" develops. Guthrie (1961) regards the verb as usually instantiating "the nucleus, [i.e.], the irreducible core of the clause". Gruber (1976) postulates that the verb is

"the principal variable in sentences upon which the syntactic form of a sentence depends".

The way in which both lexical and syntactic information are encoded in Bantu verbal lexical items renders the nuclearity of the verb all the more promising and interesting a point of departure for the study of grammatical relations in Emakhuwa, a Bantu language of Mozambique, Guthrie's P.30 (Guthrie (1967-71)).

One category of morpheme component of Emakhuwa verbs, here referred to as the verbal extension, plays an important role in the encoding of morphosyntactic information. Previously, Werner (1919) has referred to extensions as "voices": - (passive voice, causative voice, reversive voice etc.). Doke (1973) classifies them as "derivative suffixes". Guthrie, from whom we take our term, describes them as "radical extensions" (Guthrie (1962)). In all these authors there is shared common ground about these morphemes, that is, that this category of morpheme occurs with verbs deriving more

syntactically and semantically complex new verbs. In Emakhuwa, this kind of morphemes may be exemplified as in (1.a-b) and (2):

1.a
o - tthuk - a	"tie up"
o - tthuk - el - a	"tie up for/with"
o - tthuk - el - iy - a	"be tied up for/with"

1.b CINTTHUKELIYA "they are used to tie up":

2.
iyuuma cooteene n'ye
8.iron 8.adj.all 8.dm those
All those iron [cuffs]

ci - n - tthuk - EL - IY - a atthu [Ts]
8.sp tm tie appl psv tm 2.people
are used for tying people up with

where the morpheme -ela is used in this context to introduce an "instrumental applied OBJ(ect)", while the morpheme -iya instantiates the Passive rule, passivizing the already derived verb **otthukela** "tie up with".

It is this category of verbal morphemes that is the topic and the object of our investigation. The question to which our research seeks to provide a full detailed answer is what is the role of the verbal morpheme extensions in word derivation and in grammatical relations of Emakhuwa grammar.

Our main thesis in this exercise is that extension morphemes are morphological indexes of lexical rules of verb derivation. Some of these rules not only generate new verbal lexical items, but also provoke changes in the predicate argument structure as well as in the selectional restrictions of the input verb.

These two main features of extension morphemes define the scope of our research as twofold, namely, the research on the structure and the morphology of the lexicon in which the extension morphemes are involved, on the one hand, and, on the other, the research on the role of the extension morphemes in grammatical relations.

The former part is the object of chapter two. In this chapter concepts of Lexical Morphology such as "lexically related", "head of a word" and the principle of "feature percolation" postulated by Williams (1981), Selkirk (1982) and Lieber (1983) are underlyingly assumed in the description of shape, meaning and the place of the extension morphemes in the lexical instantiation of verbal word derivation in Emakhuwa. These concepts are introduced in (2.1). The morphological characterization of extension in Emakhuwa is undertaken critically using Guthrie's terminology (2.2.1). In this process we posit that extension morphemes subcategorize for verbs and the level or category of lexical item with which they are attached to derive new verbs is rather that of word than stem or root (2.2.2.1). Profiting from Kiparsky's lexicalist approach to morphology (1983) as applied by Shepardson (1986) an attempt is made in this chapter to view extension morphemes as an integral part of the lexical tissue inasmuch as their semantic content relates both to the lexicon and to each other in such a way that they can be blocked or suppleted (2.2.2.2). We show that the regular and predictable way in which these morphemes relate to verbal radicals and to each other allows one to establish morphological layers. The distinction of morphological layers, allowing us to separate productive, restricted and fossilized processes, enables us to move closer to a statement of

permissible co-occurrence of extensions (2.2.2.3) and (2.2.2.4).

The way in which the extension morphemes affect the verbal lexical items has allowed us to distinguish two groups of extension morphemes, namely, *thematic* and *modal* extension morphemes. The former group affect the argument structure of the verb with which they occur and the latter behave as "modal operators" in the verb's semantic content (Selkirk (1982)) (2.2.3).

In line with our main working thesis, we then concentrate our research on the thematic extension morphemes, which affect the argument structure of verbs. Within this group we establish two subgroups, namely, argument adding and argument dropping extension morphemes, (Causative, Applicative and Reciprocative vs. Passive and Stative).

Our second research objective is undertaken in chapters four and five after necessary preliminaries in chapter three. These chapters resume the investigation of the role of extension morphemes as morphological exponents of lexical rules that affect the syntactic distribution of the verb with which they occur. The argument adding thematic extensions are analysed in chapter four and the argument dropping thematic extensions are discussed in chapter five.

These morphemes are analysed both in isolation and in interaction with each other using the Lexical mapping subtheory of Lexical-Functional Grammar (Bresnan (1982)), outlined later in this chapter (1.2.3). The analysis focuses on the grammatical relations deriving from the application of each of the lexical rules indexed by the extension morphemes. Issues such as word

order, object cliticization (4.1.3) and passivizability (5.1.3) are examined and confronted with some of the generalizations that are part of the body of the theory in use in this work, e.g., the hierarchical classification of thematic roles, the intrinsic classification parameter which explains asymmetries in the manifestation of object properties in different languages, and so forth.

Linking these two lines of research is the analysis and the classification of the Emakhuwa non-derived or matrix verbs according to polyadicity or valency. This analysis together with a survey of the main features of grammatical relations in Bantu confronted with those in Emakhuwa constitutes the content of chapter (3.0). The analysis of the thematic structure of matrix verbs and the grammatical relations deriving from them is carried out in the light of the theoretical background outlined in (1.2.2) and (1.2.3). Special emphasis is given to the theory of polyadicity (Bresnan (1982)) in this chapter (3.1) which lays the ground for the division of verbs into thematically different categories, and for the characterization of grammatical relations of Emakhuwa matrix verbs (3.2). The characterization of the grammar of Emakhuwa matrix verbs is undertaken in the light of a brief overview of the prevailing features of Bantu transitivity (3.3). The preliminary findings of this endeavour show that Emakhuwa has a peculiar behaviour in the manifestation of grammatical relations. In particular, cliticization, juxtaposition to the verb and passivizability (3.3.2) are shown to be properties of non-subject NPs but not uniquely of the object.

Chapter (6.0) sums up and reflects upon our findings. In anticipation we may disclose that our investigation has revealed that Emakhuwa data blurs the distinction between subcategorizable and non-subcategorizable grammatical functions by *ignoring*, so to speak, features of objecthood that are distinctive in other Bantu languages. On the assumptions of Bresnan (1982) this might lead one to regard Emakhuwa rather as a ***topic*** than a ***subject-oriented*** language, in contrast to the majority of Bantu languages.

In order to provide a background of the language under our scrutiny we outline basic information on the Emakhuwa nominal system in section (1.1.1) and the morphological structure of the Emakhuwa verbal word (1.1.2). In this chapter we also outline the fundamentals of the theory of Lexical-Functional grammar giving special emphasis to the theory of Lexical mapping (1.2), which we have used as our working model without necessarily endorsing it as fully adequate for the characterization of the facts. The introduction to the background of Emakhuwa data (1.0.1), (1.1.1) and (1.1.2), draws substantially on the introduction as well as on chapters four and five of my M.Phil. thesis, (Katupha, 1983). Apart from this no other parts of this work has been taken from any source without due recognition and acknowledgement.

1.0.1 The state of research of the Emakhuwa language - a brief background

Emakhuwa (Guthrie's P.30), a Bantu language spoken in Mozambique, the southern part of Tanzania, parts of Malawi and in an enclave of northwestern Madagascar, is one of the most widely spoken languages in Mozambique, but has little been researched. Within Mozambique, this language is represented by several dialectal variations and spoken predominantly in four provinces out of ten and by around 42% of the total population (General Census, (1980)).

As a consequence of the Portuguese assimilationist colonial policy Emakhuwa as well as other Bantu languages in Mozambique were deliberately neglected. The little early scholarly attention that was given to Emakhuwa was motivated by missionary enterprise always associated with or propelled by colonial exploratory expeditions for territorial occupation and slave-trading. Hence a considerable number of vocabularies are to be found scattered in libraries elsewhere in the world (rarely in Mozambique). These include: Mylius (1790), Salt (1814), O'Neill (1882), Rankin (1886), Soveral (1887), Cabral (1924). To these may be added vocabularies due to scholars of Comparative Bantu: Koelle (1854), Bleek (1856), Last (1889), Werner (1901) and Johnston (1922). Recent Portuguese-Emakhuwa dictionaries have been written by Prata (1973) and Matos (1974). Elementary grammars (do Sacramento (1904), Maugham (1905), de Castro (1933), and Prata (1960)) are mostly inaccurate for they are based on categories deriving either from Portuguese or from Latin grammars. The Tanzanian dialects of Emakhuwa, in the Masasi district, out of the Portuguese assimilationist sphere, have received more substantial

descriptions (Maples (1879), revised and extended by Woodward (1926)). Meinhof (1908) described features of Emakhuwa phonology and morphology from a comparative point of view, supplementing documentary sources such as Maples (1879) with an informant from Masasi.

More recently, the Tanzanian dialects of Emakhuwa: Ikorovere and Imithupi have been the object of more serious linguistic studies. Cheng and Kisseberth in a series of articles (1979-81) reviewed features of Emakhuwa (Ikorovere) tonology. Stucky presented a short study on focus (1979), an analysis of word order variation in Makua (1983) and a doctoral dissertation on word order variation in Makua (1981).

Post-independence efforts to promote the use of African languages of Mozambique (i.e., since 1975) have been undertaken. As a result a research unit has been created in the Eduardo Mondlane University of Maputo. From this unit a study of Emakhuwa sentence structure was undertaken and presented by Katupha (1983) as an M.Phil. dissertation in the University of London.

1.1 The structure of the main lexical categories in Emakhuwa - a pre-theoretical description

In order to capture the main features of Emakhuwa nominal and verbal morphology and to be able to follow the examples provided in our investigation we describe below the basic forms of Emakhuwa nominal class system and the main component morphemes in the verb structure.

1.1.1 The morphology of the noun class system

The noun in Emakhuwa is generally made of a prefix and a nominal stem. Nouns displaying the same concord prefix are said to belong to the same class. A class of nouns is identifiable not solely by its prefix, as nouns of different classes may have the same prefix in isolation. And besides there are some nouns which are prefixless in isolation. Rather, a class consists of a group of nouns controlling a similar pattern of agreement in such dependent lexical items as adjectives, demonstratives, etc. Normally, classes are organized in pairs, one singular and the other corresponding to plural.

1.1.1.1 Emakhuwa nominal prefixes and allomorphs

Leaving aside, for the moment, the so-called Locative classes, Emakhuwa nouns display nine types of concord patterns only, including the class of infinitives as shown in Table (1.1). In this table, the principal noun class prefix morphemes are given in the second column with their phonologically conditioned allomorphs in the third column. The classes are numbered in the first column, using numbers that correspond as closely as possible to the reconstructed class-system of Proto-Bantu (referred to in notes in the final column) following the established practice in Bantu studies. In cases where nouns control the same concords in dependent words but display wholly different prefixes, which are lexically determined rather than phonologically conditioned, we have used the same class number in the first column, but with a distinguishing alphabetic suffix, e.g., the standard prefix {**mu-**} which controls the same agreements as subclass [1a] with zero prefix [ø-] and the diminutive subclass [1b] with the prefix {**mwa-**}.

Table (1.1) The noun class prefix:

Class	Morphemes 'Lexically Selected'	Allomorphs 'Phonologically Selected'	Examples	Gloss	Notes
1	mu-	N/___C	ḿ-tthu	person	1) -CB 1 *mu-
			m-múci	fellow clansman	
		mw/___[V, -round]	mwa-ána	child	
			mwi-íni	dancer	
		mo/___[o]	mo-ópi	(drum) player	
			mo-óthi	liar	
		mu/___{N, u}	mu-ána	sib of same sex	
			mu-úpi	moulder	
1a	Ø___	Ø___	-khóle	monkey	2) includes nouns compounded with "na" and nouns with pseudo-prefix in sg.
			-nakhúwo	maize	
			ewúcu	tortoise	
1b	mwa___	mwa^{1}+__	mwaá-m-muci	little fellow clansman	3) diminutive prefix (see 4.2)
			mwaá+nakhuwo	small maize	
			mwaá+m-kole	small coconut tree	
2	a___	a/___{C, a}[1]	a-ána	children	4) CB 2 *ba-
			a-múci	fellow clansmen	
		o/___{u, o}[1]	o-ópi	players	
			o-ópi	moulders	
		e/___{i, e}[1]	e-éni	dancers	
			e-étti	friends sib dif. sex	
2a	á___	é/___{i, e}[1]	é-é+wúcu	tortoises	5) the prefix of this particular class differs from 2 in tone. Nevertheless, it triggers the same concord pattern as that of 2.
			é-é+khúulu	kind of antelopes	
		á/___{N-, C}	á-m+phúri	kind of birds	
			á-n-kitti	kind of rats	
			á-tthu	people	
			á-khole	monkeys	

Table (1.1) The noun class prefix (continued):

Class	Morphemes 'Lexically Selected'	Allomorphs 'Phonologically Selected'	Examples	Gloss	Notes
2b	así___	así___	así-muci así-nakhuwo así-mikole		6) pre-prefix expressing diminutive (4.2.)
3	mu	N/___C	n-kóri m-míni	bed	7) CB 3*mu-
		mw/___[V, -round]	mwa-áko mwi-ísi	mountain smoke	
		mo/___[o]	mo-óno mo-óro	arm fire	
		mu/___{N, u}	mu-ńku mu-úlu	worm muzzle	
3a	O___	O___	o-rávo o-káme o-múci o-víilu	honey dew clanship mushrooms	8) CB 14 *bu- 11 *du- (skewed?)
4	mi___	mi/___{C, i}	mi-kóri mi-ísi	beds smokes	9) CB4*mi-
		my/-[V, -high front]	mya-áko myo-óno	mountains arms	
4a	O___	O___	o-púnápúna o-víilu o-púri	grapes mushrooms kind of mushroom	
5	ni___	N/___{+Dental, +Alveolar, +Post-alveol}	n-táta n-ráma n-límí n-tthátto	hand cheek tongue mat	10) CB 5*i-/di-(skewed?)
		nu/___[u]	nu-úme nu-útta	frog (kind) memory	
		ni/___Elsewhere	ni-kútha ni-íno	knee tooth	

Table (1.1) The noun class prefix (continued):

Class	Morphemes 'Lexically Selected'	Allomorphs 'Phonologically Selected'	Examples	Gloss	Notes
6	ma	me/___{i, e}[1]	me-éno	teeth	11) CB é* ma-
		mo/___{U, o}	mo-ómo	frogs	
			no-ótta	memories	
		ma/___Elsewhere	ma-táta	hands	
			ma-ráma	cheeks	
			ma-límí	tongues	
			ma-tthátto	mats	
7	e___	e___	e-púri	goat	12) CB 7 * ki-
			e-kulúwe	pig	nouns formerly in class
			e-khácu	cashew fruit	9*N seem to have been
			e-hópa	fish	reclassified into class 7.
			e-háce	jealousy	
8	i___	i___	i-púri	goats	13) CB 8 * bi-
			i-kulúwe	pigs	classes 7/8 are conventionally
			i-khácu	cashew fruits	orthographically distinguished
			i-hópa	fish	by the opposition e/i, but
					e/i in position V_1 appear to
					be in free variation
					in speech, Nouns of class
					10*N___ are re-classified into 8.
11 and 14					See 4.2.1
15	o	o/___C	o-líma	to cultivate	14) CB 15 * ku-
			o-líva	to pay	distinct from 3b in the
			o-rúma	to send	concord pattern.
		w/___[V]	wa-ála	to sow/plant	
			wi-íla	to fall (night)	
			wu-úma	to become dry	

Notes: 1 - following rules of vowel assimilation

1.1.1.2 A historical note on the morphological convergence of Emakhuwa noun class prefixes

The reflexes of Common Bantu are such that the *original* *k and *b have become ø (zero) in Emakhuwa. As a result there is a convergence of morphological configurations of classes [14,15,17]. This convergence however, is only in shape between class [14] on the one hand, and [15,17] on the other. For the former has a different concord pattern from the latter group, identical to that of class [3].

Class [14] as well as [11] have been re-interpreted and re-classified as class [3a]. As for classes [15,17] they share the same concord pattern but differ in meaning. Class [15] is only for infinitives and [17] only for locatives.

One may similarly assume that the convergence of *k and *b into zero is responsible for the situation in classes [7/8] (Common Bantu [^{7}*ki/^{8}*bi]) where the prefixes are conventionally distinguished in the orthography as E- for the singular and I- for the plural but occur in free variation in speech. The only distinguishing factor is the concord pattern they yield.

It also seems that classes [CB ^{9}*N] and [CB ^{10}*N] have been re-interpreted and re-classified as [7/8]. So far, no other concord patterns or class prefixes have been found and there appears to be no reflex in Emakhuwa of the Common Bantu classes [12,13].

1.1.1.3 Gender systems

The term gender is conveniently adopted here to mean the pattern of agreement or concord that a given class of nouns yields. This pattern may often have its singular and plural form. Hence there are two-class genders, i.e., having concord patterns corresponding to singular and plural, and one-class genders, those nouns which occur only in one class (either singular or plural).

The table (1.2) sets out the primary or "lexical" genders, (both two-class and one-class genders), that we have been able to establish in Emakhuwa.

Table (1.2) Primary or Lexical genders

Gender	Classes	Examples (sg.)	Examples (pl.)	Gloss	Notes
2 CLASS GENDER:					
1/2	1/2:mu-/a-	m-múci	a-múci	fellow clansman	Normally restricted to human beings, verbal derivatives expressing agent or profession.
		mwa-ána	a-ána	child	
		mo-óthi	o-óthi	liar	
	1a/2a:Ø-/a-	khóle	á-khole	monkey	Includes personal names, personified animals, plural of respect.
		nakhówo	á-nákhówo	maize(corn)	
		mphóri	á-mphóri	kind of bird	
		ewúcu	é-éwúcu	tortoise	
3/4	3/4:mu-/mi-	n-kóri	mi-kóri	bed	Includes elements of nature: trees, a few animals, verbal derivatives expressing action/result of action and/or instrument.
		mwa-áko	mya-áko	mountain	
		mo-óro	myo-óro	fire	
		m-mélo	mi-vélo	broom	
		n-lípu	mi-lípu	inauguration	
	3a/4a:O-/O-	o-púnápúna	-	grapefruit	Includes elements of nature which appear normally in the mass; [but susceptible of singular detachment (countable)] . The singular may sometimes be used for a part or a type.
		o-víilu	-	mushroom	
		o-púri	-	kind of mushroom	
5/6	5/6:ni-/ma-	ni-íno	me-éno	tooth	Includes humans perceived as abnormal: disabled or spirit possessed, parts of human body.
		n-táta	ma-táta	hand	
		n-ttháttо	ma-ttháttо	mat	
		n-rútthu	ma-rútthu	corpse	
7/8	7/8:e-/i-	e-púri	i-púri	goat	Includes animals and loan-words.
		e-kulúwe	i-kulúwe	pig	
		e-khácu	i-khácu	cashew fruit	
		e-raátiyo	i-raátiyo	radio	
1 CLASS GENDERS:					
3a/O-	3a/O-	o-lóko	-	clay	Characterised by elements of nature which are mass and uncountable.
		o-káme	-	dew.	
		o-rávo	-	honey	
-/6ma-	-/6-ma-	-	ma-áci	water	Includes uncountable nouns, liquids or mass-quantity.
		-	ma-khúra	oil	
		-	me-éle	sorghum	
		-	ma-lívelo	payment	
15/O-	15/O	o-líma	-	cultivate	Verbal infinitives.
		o-líva	-	pay	
		o-rúma	-	send	
		wa-ála	-	sow/plant	

Sometimes there are more complex oppositions of classes. This is achieved by replacing the normal or lexical prefix of a given noun-stem with a prefix of another class, with some predictable change in meaning, e.g.:

3.a *singular/plural(countable)/collective*:

3.	**M**pewe	-> Apewe	-> **Ma**pewe
	1.king,	2.kings (pl.)	6.kings (collective).

Or,

3.b *normal -> diminutive*:	**mu**-thiyana	**musi**-thiyana
	1.woman	1.dim.girl

3.c *concrete -> abstract*:	**mu**-thiyana	o-thiyana
	1. woman	14.womanhood

We describe the relationship between or amongst such genders as gender derivation. This may be observed from table (1.3):

Table (1.3): Gender systems and derived genders

Genders	Examples	Gloss	Notes
1/2/6	ma-mwéne	group of kings	
singular/pl./collective	ma-y-ó-wíina[1]	group of dancers	
	ma-húmu	group of chieftains	
1/2/3a	o-wálele	prostitution	Includes abstract nouns in
sing/plural/role	o-múci	clanship	opposition to concrete ones
	o-mwéne	kingdom	in classes 1/2 expressing the role or state of things.
1/2/7	e-kúnya	european way	Includes nouns expressing
sing./plural/manner	e-mwéne	kinghood	culture, quality or status, languages, characteristic behaviour or attitudes.
	e-thíyana	womanhood	
	e-mákhuwa	makhuwa way	
1/2	a-múci	fellow clansman	Form of plural expressing respect
singular/honorific	a-péwe	king	when referring to a noun in singular. See also cl. 2a:á-.
	a-théli	bridegroom	
3/4/7/8	m-mánka/mi-mánka[2]	mango plant(s)	Some fruits are in class 7 and
Plant(s)/fruit(s)	e-mánka/i-mánka	mango fruit(s)	their plants are in class 3 and
	n-khácu/mi-khácu	cashew plant(s)	in 4/8 their corresponding
	e-khácu/i-khácu	cashew apple(s)	plural, forming a sort of gender derivation.
1b+/2b	mwá+ń-muci[3]	small fellow clansman	Pre-prefix which can precede nouns
Diminutive	mwá+ń-kori	small bed	in any class.
	mwá+ní-ino	small tooth	
	mwé+é-puri	small goat	
	así+(á)-muci	small fellow clansman	
	así+(mi)-kori	small beds	
	así+mé-eno	small teeth	
	así+(í)-puri	small goats	

1. ma-y-ó-wíina: the glide -y- is inserted, perhaps, to avoid vowel assimilation between the prefix ma- and the EDP o-.

2. While in the previous examples we gave only the example corresponding to one class, in 3/4/7/8 we give all classes to show clearly the relation they entertain.

3. It is interesting to see how the tone changes in its surface realisation in this type of gender derivation.

1.1.1.4 Locative noun class system

Apart from the nine noun-classes three additional classes may be found in Emakhuwa with a locative sense. The forms of these classes may be observed in table (1.4):

Table (1.4): Extra-independent prefixes: Locatives

Class	Morpheme	Allomorphs	Notes
16	Va	ve/__{e, i}, vo/__{o, u}	CB 16 *pa-
17	O-	w/__[V]	CB 17 *ku-
18	Mu-	mw/__[V, -round], m/__C	CB 18 *mu-

As in any other noun-class these additional classes are capable of controlling agreement patterns with other dependent lexical items as in (4.a-c)[1]:

[cl.16]: [*]

4.a Va - puwa - ni va - Nihorosa va - ho - reer - a
16 yard loc 16gn pN 16sp tm clean tm
Mr Nihorosa's house-yard is well arranged

[cl.17]:

4.b O - puwa - ni wa - Nihorosa o - naa - wur - iy - a
17 yard loc 17gn pN 17.sp tm drink psv tm

otheka
14.beer
At Nihorosa's house-yard there is drunk beer

[cl.18]:

4.c **M -puwa - ni mwa - Nihorosa mu - na - winn - iy - a**
18 yard loc 18gn pN 18sp tm dance psv tm

nihere
5.dance
In Nihorosa's house-yard there is danced "nihere"
dance

1.1.2 The structure of Emakhuwa verbal lexical item

Although the role of the tense and/or aspect is not taken into consideration in the scope of our research, this section introduces a pretheoretical descriptive sketch of the main conjugational morphemes - **categories of Emakhuwa verbal morphemes** - and their combinatorial positions in the verb. As with the case of the introduction of nominal morphology in Emakhuwa, this section is designed to providing additional information for understanding the structure of **the verbal lexical item** in Emakhuwa.

The Emakhuwa verbal word consists of a sequence of morphemes of different categories: pronominal morphemes or personal grammatical co-referents, markers of tense/aspect, and so forth (Katupha, 1983). These morpheme categories and the different kinds of verb structure resulting from their combinations are introduced in this section.

1.1.2.1 The radical and the base

For the purpose of the present section, the verb-root[2] or radical is understood as the lexical part of any verb form, inclusive of derivational extensions, but excluding the final suffix vowel and all other conjugational morphemes.

It is often convenient, however, to refer to the radical and the final suffix vowel together as a unit. For this purpose we use the term "**base**" following Guthrie (1948). There are four distinct bases in Emakhuwa which are defined by the type of suffix following the radical, namely, **-A, -ALe, -E and -aka.**

The **-A base** is most commonly realized by a suffix **-a** following the radical. There are however, zero allomorphs found with Portuguese or Arabic loan-words as in (5):

5. osatiyari "annoy" (Portuguese: *chatear*)
   osukhuru "thank" (Arabic: *šukr-an*)
   (Swahili: kushukuru)

The **-ALe base** is found in the Perfective Weak tense and is often fused with the radical forming one single unit as in (6):

6. -lim-ale = **limme** "cultivate" (as in the Perf.weak)
   -tthuk-ale = **tthunke** "tie" (as in the Perf.weak)

The fused form is in free variation with the non-fused one in radicals ending in a consonant (see: Katupha, 1983, for further details).

The **-E base** encapsulates the paradigms of Subjunctive verb forms and as the -A base, has a zero allomorph with loan-words.

The **-aka base** is used in structures including certain temporal constructions and is to be distinguished from the sequence of -A base and Progressive tense/aspect marker **-KA**.

1.1.2.2 Personal grammatical co-referents

Every finite verb-form contains a concord element referencing the Subject. Verb-forms may also contain a concord element referencing the object where this is personal, i.e., class 1/2, or the grammatical persons. The cl. 1 subject co-referent is realized by zero, and the 2nd person plural/respectful object co-referent is realized discontinuously by a pre-radical -u- and the suffix -ni after the base. There is no object pronominal co-referent for classes 3 - 18. There is also a relative co-referent found in relative verb structures as shown in (1.2.3.3).

These pronominal verbal co-referents, sometimes described in this thesis as subject and object markers, are set out in table (1.5). This table includes allomorphs selected according to whether the following element begins with a consonant or vowel:

Table 1.5: Pronominal verbal co-referents:

Person/Class	Subject-marker /__C	Subject-marker /__V	Object-marker /__C	Object-marker /__V
1st person sg.	ki-	k-	-ki-	-k-
1st person pl.	ni-	n-	-ni-	-n-
2nd person sg.	o/u-	w-	-wu-	-w-
2nd person pl.	mu-	mw-	-wu..ni	-w..ni
Reflexive	-	-	-i-	-ic-
cl.1 (mtthu)	ø	ø	-m(u)-	-mw-
cl.2 (atthu)	a-	ya-	-a-	-wa-
cl.3 (mkole)	o/u-	w-	-	-
cl.4 (mikole)	ci/si-	c/s-	-	-
cl.5 (niino)	ni-	n-	-	-
cl.6 (meeno)	a-	ya-	-	-
cl.7 (epuri)	e-	y-	-	-
cl.8 (ipuri)	ci/si-	c/s-	-	-

1.1.2.3 The main "conjugational" morphemes of Emakhuwa verb

Apart from the pronominal co-referents described above, Emakhuwa has two main categories of conjugational verbal morphemes, the negative and other particles and the tense/aspect morphemes. We introduce each of these categories in the following subsections.

1.1.2.3.1 The negative and other particles

There are two morphemes conjugated with verbs which, convey the idea of negation. The negative morpheme Kha-, which always precedes the Subject co-referent "*denies*" the whole semantic content of the verb. The negative morpheme -hi-, which varies in position but always comes after the Subject coreferent and before the radical. It "*negates*" one aspect, time, mood and/or focus in which the semantic content of the verb is carried out or even one of the elements involved in the action.

One may include in this category such optional morphemes as:

-Ka aspectual morpheme,
-si- the diminutive morpheme which belittles the action described by the verb,
-ni the interrogative pronominal suffix,
-ru the exclusive suffix and
-tho the suffix which has an equivalent meaning to the Latin prefix re- ("repeat the action described by the verb").

1.1.2.3.2 The "tense" and/or aspect morphemes

In addition to the final tense/aspect-marker or suffix incorporated in the base (1.1.2.1), finite verb-forms may incorporate a medial tense/aspect marker. This usually occurs before the radical. The various combinations of medial and final tense/aspect markers yield what is often described as different "tenses" of the verb. Since, however, this term suggests distinction of time, while the Emakhuwa verb forms are distinguished also in aspect, mood, focus etc., we have preferred the neutral term "conjugation" (McIntosh (1984))[3].

The minimal uncompounded finite verb consists of subject co-referent, medial tense marker (which may be zero) and the base. By uncompounded verb form we exclude those verbs which involve two lexical roots. In the following subsection we present the verb structure of some of the most frequent verb conjugations in Emakhuwa, namely, the infinitive, the imperative, the simple finite verb form and the relative conjugation.

1.1.2.3.3 Some conjugational structures

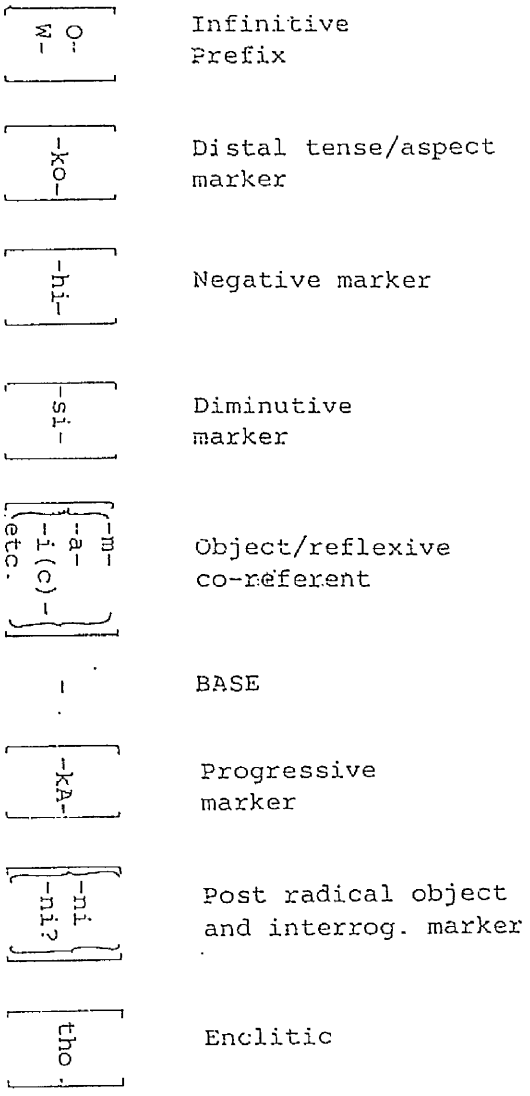
(i) - The infinitive

The minimal structure of the infinitive in Emakhuwa is composed of the nominal concord prefix class 15 and the verbal base:

7. olima "cultivate"
waala "plant"
olimela "cultivate"/Applicative.

Other elements that may be entered into the infinitive conjugation are shown in the table (1.6):

Table 1.6 The infinitive verb structure:



The elements in [...] are optional and the elements in within {...} are mutually exclusive alternatives.

The second plural object marker -ni occurs only in combination with the element -u- in the pre-radical object marker position; in this case the interrogative pronominal particle -ni? is excluded, the paradigm being suppleted by separate interrogative pronoun eseeni/esiyaani?:

8.a wu - U - vah - a - NI? "to give you (sg) what?

you (sg.) — what

but,

8.b wu - U - vah - a - NI eseeni? "give /to you/pl. what?

you (pl.)

(ii) - The imperative and/or exhortative

The minimal form of imperative is composed of the radical and the suffix -A, i.e., the base, in singular, the radical + suffix -A + -ni if it is plural (2nd person) or respectful:

9. lim - a "cultivate"
lim - a - ni "cultivate"/plural or respectful

Other elements that enter in the conjugation of the imperative form may be observed in table (1.7):

Table 1.7: The imperative verbal structure:

We may represent the imperative structure schematically as follows:

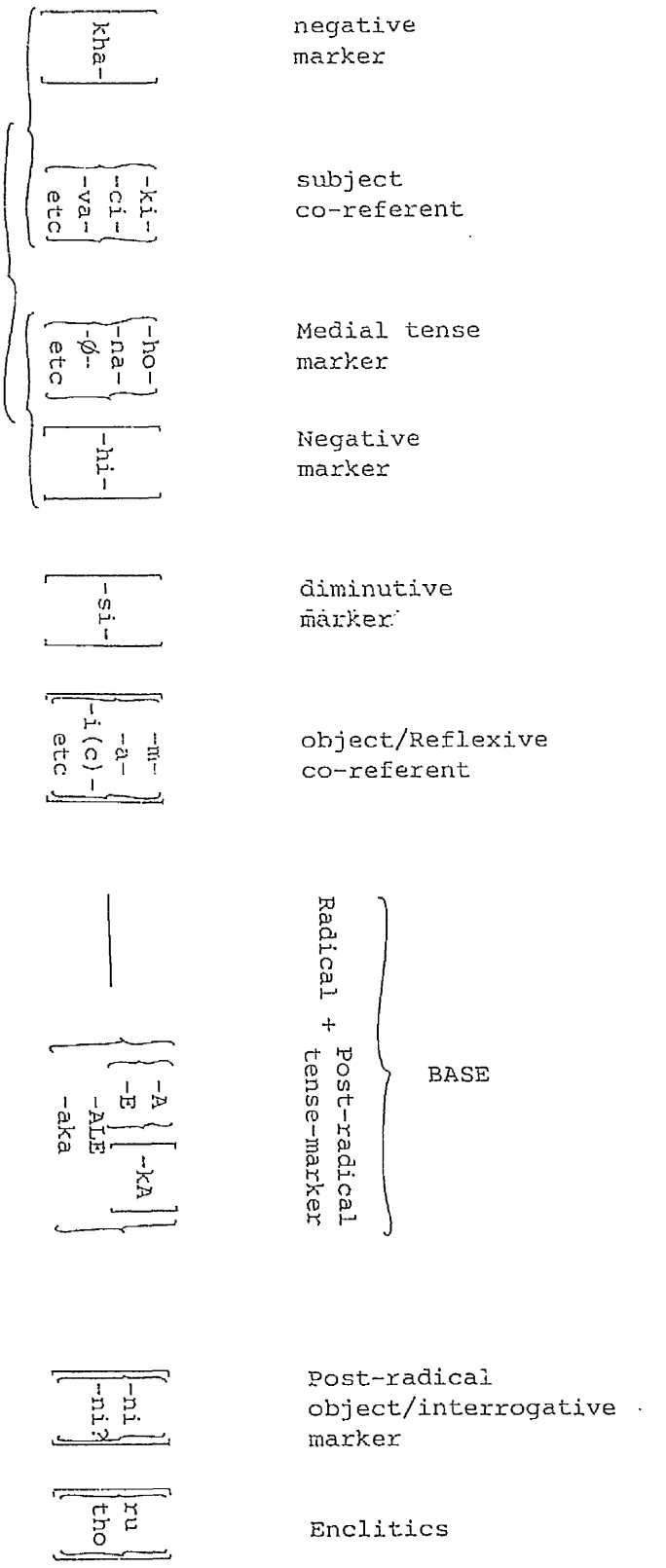
Exhortative marker	RADICAL	Suffix marker	Progressive marker	Plural/Respect marker	Repetitive enclitic
[nkA-]	-	-a	[-ka]	[-ni]	[tho]

Exhortative marker	Object/Reflex. co-referent	RADICAL	Suffix marker	Progressive marker	Plural/Resp marker	Repetitive enclitic
[nkA-]	[i(c)- etc.]	-	-e	[-ke]	[-ni]	[tho]

(iii) - The uncompounded finite verbal structure

The full structure of a simple finite verb form may include morphemes which may be observed in (1.8):

Table 1.8: The uncompounded finite verbal structure



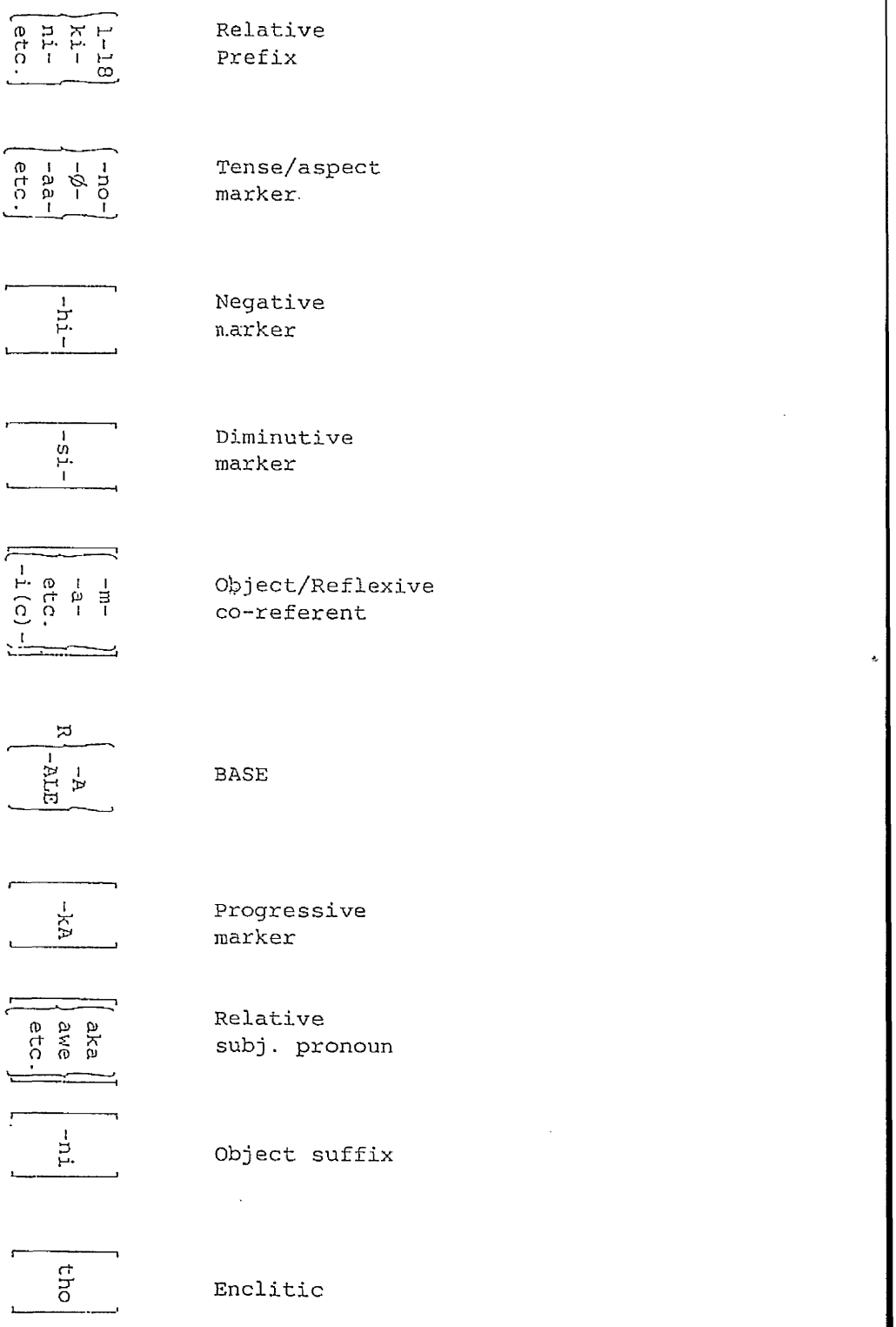
Notes: Horizontal braces indicate possibility of fusion between successive elements. The enclitics ru and tho may co-occur in either order.

(iv) - The relative verb structure

The relative verb structure differs slightly from other uncompounded verb structures in that the place of the subject co-referent is taken by a relative prefix agreeing with the antecedent. The *logical* subject, if different from the antecedent, is expressed by an NP following the relative verb form or by a "relative subject pronoun" akin to possessive pronouns. The only negative marker admissible in relative verbs is -hi-.

The relative verbal structure may be represented schematically as in (1.9):

Table 1.9: The relative verbal structure:



1.2 Methodology and theoretical set-up

When in the years 1980 to 1983 I undertook a descriptive analysis of Emakhuwa sentence structure (Katupha, (1983)) I gathered a substantial linguistic corpus (1.2.1), which was then thought to be useful for more exhaustive linguistic study over the years to come. The investigation on the role of extension morphemes in the verbal morphology and in the grammar of Emakhuwa extended verbs is indeed a resumption and/or an extension of the description of Emakhuwa sentence structure of 1983 with two basic differences. First, this enterprise has a narrower scope referred to only in passing in my dissertation of 1983 section (5.2); secondly, the present dissertation is written against a different theoretical background.

The theoretical background for the analysis of the role of extension morphemes in grammatical relations is outlined in (1.2.2).

1.2.1 The Corpus

Although here and there I have used my own intuitive knowledge of the language, this research is undertaken using a corpus of recorded texts gathered for my M.Phil. thesis. Details on how these texts were recorded may be seen in Katupha (1983). The motivation for using recorded texts is to ensure objectivity and avoid problems inherent in using oneself as a source of linguistic information.

Ten representative texts were entered and processed using the computer. Of these, one (text no.10, dialogue) represents Emeetto dialect of Emakhuwa, spoken in Cabo Delgado province, mainly in the

districts of Montepuez, Balama, and Namuuno and parts of Niassa province. The remaining represent Esaaka dialect spoken in the districts of Alua, Erati and Memba of Nampula province and in the districts of Chiure, Mecufi in the province of Cabo Delgado.

Since the object of this research is the verb and both its morphological and thematical relation with the derivational suffixes - hereafter referred to as extension morphemes - one of the first tasks was to identify or isolate the verb itself from the texts. This produced a list of verbs forming the first volume of data which indicated the line number and the text number from which the verb was taken. Then a computer program was written which allowed us to examine each root, seeing if it ended in what was plausibly an extension. If so, seeing if there was a corresponding shorter form that lacked that extension. This produced another volume of data which was a step further but which could not help us to readily find such information as:

(a) compound extensions or non-final extensions
(b) extensions that entail morphonological change in the verbal root.

It was therefore felt that in order to explore and/or exploit all the data it was necessary to break down every root into its primitive form and its extensions. That both root and extensions should be represented in canonical (morphemic) forms, e.g.: -nr-, -er-, -ir- as -ir-, "say/do" and extensions -elel-, -enl-, both as -el-el- (double Applicative). Thus, a program was written which got the computer to present its identifications of what it *thought* to be a verb from the first concordance "wordlist" to me for my approval

and eventual correction. This allowed me to index compound extensions, and tabulate occurrences which yielded two volumes of data with greater delicacy. On the basis of this it was possible to organize concordances for what we found relevant in the explorations of the data, namely, "simple/extended" pairs of verb roots, lists of primitive verb roots occurring with no extensions, occurrences of roots with different types of extension morphemes, combinations of different extension morphemes, classification of primitive roots on the basis of their predicate argument structures, etc. Each of these exercises was exemplified with text and line references. Despite the painstaking exercise we went through in the organization of the data we found ourselves having nonetheless to use our own intuitive knowledge of the language, for though theoretically possible, certain occurrences of extension morphemes with radical are pragmatically avoided. For this reason we have resorted to distinguishing examples taken from the corpus from those provided by myself by indicating the former the source text number, while those provided by the author have the indication [*].

1.2.2 Lexical - Functional Grammar and grammatical relations in Bantu: the Lexical Mapping theory

The Lexical-Functional Theory of Grammar, (LFG), as developed by Bresnan and others (1982) may be regarded as one of the theories of grammar which have arisen as a natural consequence of the Lexicalist Hypothesis. The Lexicalist Hypothesis establishes domains of application of the lexical rules distinct from those of the syntax, (Lapointe (1977,1979)). The theories of grammar based on this theoretical standpoint include

the Generalized Phrase Structure Grammar, (GPSG) (Gazdar (1985)), LFG and the Syntax of Words (Selkirk (1982)). These theories have in common the assumption that idiosyncratic features of lexical items may well be directly encoded at surface word or sentence structure without an intermediary "deep" level of grammatical functions. This assumption makes the package of syntactic principles such as move-*a* and transformations redundant. This is the theoretical ground on which the Extended Standard Theory of Grammar as well as its recent developments such as the Government and Binding theory of grammar (GB), Case Theory, Theta Theory and the theory of Incorporation (Baker (1988)) differ from the Lexical-Functional Grammar and its derivative - the theory of Lexical Mapping and/or A-Structure theory (Bresnan et al. (1982,1988,1990)), Alsina and Mchombo (1988,1989), (Alsina (1990)). It is also on the basis of this assumption that LFG provides an alternative conception of Universal Grammar.

The last decade or so has seen renewed attention to the Bantu languages as they have been used by proponents of these opposing theories of grammar to corroborate their heuristic and epistemological hypotheses.

We have entered in this conflicting theoretical arena not so much for purposes of shedding more theoretical insights as to use one of the theories as a tool to help us to achieve the goals of our project. The Lexical-Functional theory as has been used by Alsina and Mchombo (1980), Bresnan and Kanerva (1989), Bresnan and Moshi (1988), Bresnan (1990)), has been chosen for the treatment of our data, because of its central preoccupation with predicate argument structures and their mapping onto grammatical functions, and because

these authors have shown it able to handle economically the argument-transforming processes associated with verbal extension morphemes in the Bantu languages.

Before analysing our data a brief account of the main relevant aspects of LFG is presented.

1.2.2.1 The underlying principles

Central to the Lexical-Functional theory of Grammar is the characterization of the relationship between thematic roles of predicate argument structures of lexical items and the surface word and phrase structure by which they are instantiated. On this standpoint the theory posits that:

(i) grammatical relations are directly encoded in the lexicon and
(ii) the grammar of a language has at least three levels of information.

(i) The lexical encoding of the grammatical relations is mediated by the grammatical functions which are mapped onto the predicate argument structure of the lexical item. The predicate argument structure of a lexical item is seen as being "independent from the syntactic contextual features and is represented as a function of a fixed number of grammatically interpretable arguments" (Bresnan (1987)). By assigning grammatical functions to the thematic roles available in the predicate argument structures of the lexical items, grammatical relations become lexically encoded. This process is ensured by the "principle of direct encoding" (Bresnan (1987)) which states that syntactic rules may not replace one function with another.

(ii) The grammar of a language is posited as having three components, namely, the lexical component, the syntactic component and the pragmatic component. Of these three components, the lexical and the syntactic component provide grammatical information encoded in three levels:

(a) the thematic structure (a-structure) of lexical items, which forms the lexical component and provides the input for the syntactic component,
(b) the functional structure and
(c) the constituent structure

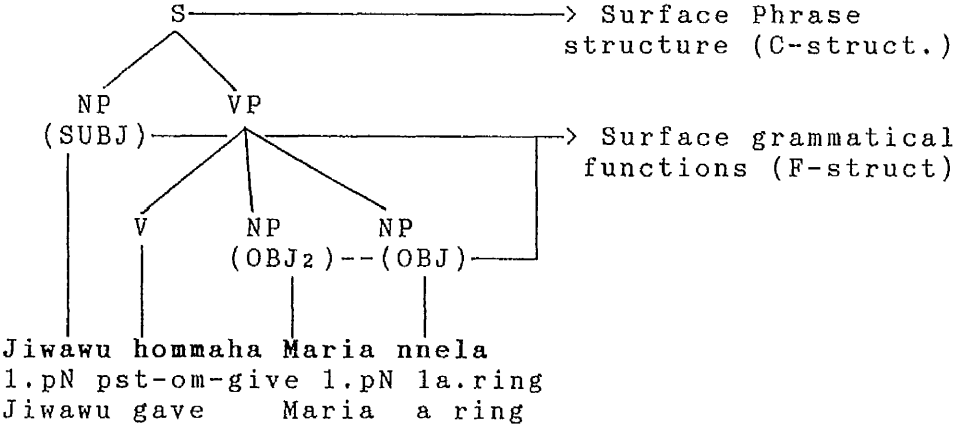
Both the (f-structure) and the (c-structure) are parts of the syntactic component.

The thematic structure of a lexical item together with the lexical assignment of grammatical functions is known as the *lexical form* which is instantiated by the syntactic component through the functional and the constituent structures along the following lines:

10.

OVAHA "give"	< ag	rcp	th >		Predicate Argument Structure
	(SUB)	(OBJ_2)	(OBJ)		Lexical assignment of grammatical functions

"OVAHA ((SUBJ) (OBJ_2) (OBJ))" Lexical Form



The functional structure (F-structure), "provides a precise characterization of such traditional syntactic notions as SUBJ(ect), "understood" SUBJ(ect), OBJ(ect), COMP(lement), and ADJ(unct)" (Bresnan (1982)).

The F-structure "encodes its meaningful grammatical relations and provides sufficient information of the semantic component to determine the appropriate predicate argument structure," (Kaplan and Bresnan, (1982)).

The constituent structure (C-structure) "indicates the superficial arrangement of words and phrase in the sentence", (Kaplan and Bresnan (1982)).

A package of principles and conditions of grammatical well-formedness operating on both functional and constituent structure ensures that the grammar proposed by LFG generates only syntactic strings grammatically acceptable by the native speaker of the language. These conditions are discussed together with the introduction of the essentials of the theory of Lexical Mapping in the following section (1.2.3).

1.2.3 The theory of Lexical Mapping - A brief outline

The theory of Lexical mapping is a derivative of LFG. This theory has known a number of applications in the analysis of African (Bantu) languages having thus, contributed to its theoretical refinements. The applications of the theory to language analysis most relevant to our research include those of Alsina and Mchombo (1989), Alsina (1989; 1990), Bresnan (1990), Bresnan and Kanerva (1989; 1990), Bresnan and Moshi (1989; 1990) and Mchombo (1989)[4].

Essentially, the theory of lexical mapping is concerned with the rules and principles linking the *a-structure* component with that of *f-structure*. The principles at work in this theory may be grouped into three, namely, the decomposition of syntactic functions, the assignment of syntactic values to theta roles, and the *conditions of well-formedness* - conditions that ensure that the specification of lexical forms is grammatically acceptable. One other aspect of this theory important to the treatment of our data is that of morpholexical operations which affect the theta roles of the matrix verbs.

1.2.3.1 The decomposition of syntactic functions

The underlying assumption leading to the decomposition of grammatical functions is that grammatical functions form natural classes according to whether they inherently relate to certain or to all semantic roles. Thus, the grammatical functions SUBJ(ect), OBJ(ect) are thought to form one natural class of unrestricted syntactic functions for they can be linked with any semantic role. The grammatical function OBL(ique) is restricted or fixed to certain semantic roles. On the other hand, the grammatical function OBJ(ect) forms a natural class of itself, that of complement to *predicators* - verbs or *adpositions*.

The grammatical function OBJ(ect) may be restricted in the expression of its grammatical properties according to the hierarchical position of the semantic role it is associated with and according to whether the verb it is associated with is transitive or intransitivized.

Thus, grammatical functions are *underspecified*, that is, directly encoded into the lexicon. And any permutation of grammatical functions from one natural class to another is understood as being regulated by or deriving from this *underspecification* rather than effected by the principles or mechanisms of *move-α* or transformations as in ESTG and the like. In other words, the theory is *monostratal*, i.e., it does away with the concept of *deep* vs. *surface* structure. The feature values characterizing the underspecification of each grammatical function are as in (11):

11.

SUBJ	or	SUBJ		OBJ	or	OBJ
[-o]		[-r]		[-r]		[+o]
OBL$_\theta$	or	OBL$_\theta$		OBJ$_\theta$	or	OBJ$_\theta$
[-o]		[+r]		[+r]		[+o]

where OBJ$_\theta$ OBL$_\theta$ represent different restricted objects or oblique functions that are instantiated thematically. Using one feature value we can form four natural classes of grammatical functions as in (12):

12. [-r] = SUBJ, OBJ [-o] = SUBJ, OBL$_\theta$

[+r] = OBJ$_\theta$, OBL$_\theta$ [+o] = OBJ, OBJ$_\theta$

We can also determine default classifications, which are designed for selecting the subject and providing full specification of the grammatical functions - *the lexical form of a verb*. The subject default classification adopted here is from Alsina (1990):

13. Subject default: Assign: [-α] to $\hat{\theta}$ [-o] or to θ [-r]

Assign: [+α] elsewhere.

That is, map the grammatical function SUBJ(ect)=(-a) onto the highest theta role or, in its absence, to the role immediately lower that is intrinsincally classified as unrestricted, i.e., [-r].

1.2.3.2 The assignment of syntactic values to theta roles

Three factors are said to be involved in the assignment of syntactic values to a theta role: the intrinsic semantic content of the theta role itself, the relative position that the theta role has in the thematic hierarchy and the default classification.

(i) Intrinsic semantic content of the theta role

The intrinsic mapping of theta roles to f-structures is established by the natural association of the semantic content of the theta roles and the natural class of syntactic function/functions. Thus the syntactic values of grammatical functions are the basis for the intrinsic classifications of theta roles. For instance, the theta role *theme* can be associated with either the grammatical function SUBJ(ect) or OBJ(ect). Given that these two grammatical functions form a natural class with the value [-r], then *theme* is classified as [-r]. On this ground the theta roles are *intrinsically classified* - assigned or given syntactic values as in (14):

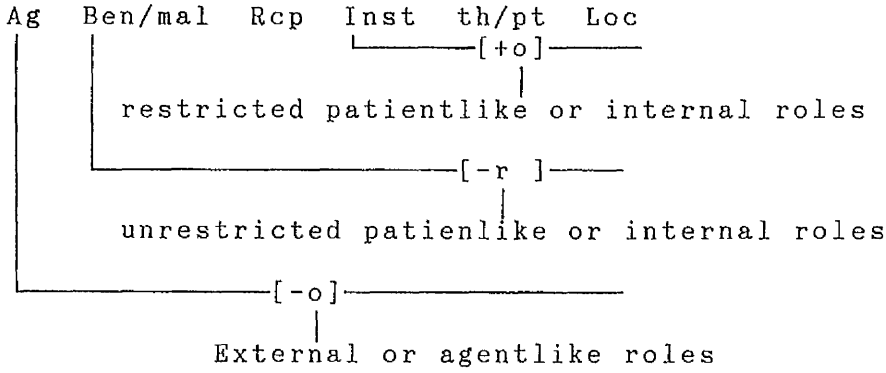
14. *Intrinsic classifications of theta roles* (IC):

Agent	ag | [-o]
Theme	th/pt | [-r]
Locative	loc | [-o]

(Due to Bresnan and Moshi (1990)).

But since the above roles are not the only theta roles, it has been claimed that the principle of IC operates cyclically (Alsina and Mchombo (1989)). That is, the theory postulates that all objectlike theta roles "*internalized*" by transitivizing processes such as the Applicative rule must be assigned the IC of [-r] as the "*inner*" theta role theme is. But since the introduction of a new theta role implies a restructuring of the thematic combinations, deriving from the new syntactic relations, Alsina and Mchombo (1989) posit that there is a split in the IC of the "*internalized*" theta roles into two. The *internalized* theta roles receive IC [-r] if they are hierarchically higher than Instrument. Otherwise they receive the IC [+o][5]. This means that the object mapped onto a theta role classified as [+o] is restricted and cannot be subject of Passive or even trigger object agreement. On this basis the proposed IC classification of both *external or agentlike* and *internal* or *patientlike* theta roles is as in (15):

15.



One important constraint on IC is that of restriction on the number of theta roles that can receive the IC of [-r] in a given thematic structure:

"The IC of [-r] can be assigned at most once in any given argument structure" (Alsina and Mchombo (1989))[6].

(ii) The thematic hierarchy

The relative hierarchical position of an argument plays a role in the assignment of its syntactic value as well. The assumption is that theta roles are ordered in relation to their prominence. The more prominent a theta role the higher the place it occupies in the thematic structure (Bresnan and Moshi (1990) and the relevant works referred to there). Although there is discrepancy amongst the proponents of this assumption as to the exact order of prominence of the theta roles, it is generally assumed that the highest theta role of a predicate argument structure is normally associated with the grammatical function SUBJ(ect). Accordingly the theory of Lexical mapping assigns the IC of [-r] to it.

The thematic hierarchy generally adopted in the works on which this outline is based is as in (16):

16. Thematic hierarchy:

ag > ben > go > ins > pt/th > loc

(Bresnan and Moshi (1990)).

We propose an expansion and alternative thematic ordering of some roles in the hierarchy so as to accommodate the Emakhuwa data, (see (4.1.2)).

One of the functions of thematic hierarchy in the theory of Lexical mapping is

"to define the highest role of a predicate" (Bresnan and Moshi (1990)).

This is conventionally represented as ˆθ.

(iii) The default classification

The default classifications of theta roles are applied

"after any and all morpholexical operations but before lexical insertion" Bresnan and Moshi (1990)).

Bresnan and Moshi (1990) adopt the following default classifications of theta roles:

17. Default classification:

Assign: [-r] to ˆθ and
[+r] to θ

"Make the highest role unrestricted and the lower restricted" (Bresnan and Moshi (1990)).

The default classifications cannot change or alter features already assigned to the roles. They can add them only. This constraint on default classification is known as the *monotonicity constraint* proposed by Bresnan and Kanerva (1989).

1.2.3.3 Morpholexical operations

Theta roles can be manipulated so as to get suppressed or get *internalized* by such lexical rules as Passive, Causative etc. These manipulations are known as *morpholexical operations* on the argument structure. Defined as:

"partially specified lexical arguments that are unified with the verbal argument structure by means of affixation" (Alsina and Mchombo (1989)).

the morpholexical operations may add, suppress or bind theta roles according to the argument they specify. Some of these morpholexical operations are presented in (Alsina and Mchombo (1989)) quoted from Bresnan and Moshi (1990):

18.a Passive: - "the passive suppresses the highest theta role - *the logical subject* - of a verb" (Bresnan and Kanerva (1989):

18.a Passive: $\hat{\theta}$ | $\emptyset$

18.b Applicative: - "the applicative - θ_{appl} - theta role adds a new semantic role to the argument structure of a verb (below the highest role)" (Alsina and Mchombo (1989)):

18.b Applicative: $\emptyset$ ⇓ $< \theta \ldots \ \theta_{appl} \ldots >$

18.c Reciprocalization - "the reciprocalization suppresses one role of the base verb, by binding it to $\hat{\theta}$, reducing the syntactic objects of the verb by one (Alsina (1989), Mchombo (1989)).

18.c Reciprocalization: $< \theta_i \ldots \ \theta_i \ \ldots >$ | $\emptyset$

18.d Theme suppression - designed for "unspecified object deletion or intransitivization of certain verbs" (Alsina and Mchombo (1989)):

18.d Theme suppression: th/pt
|
ø

Whatever morpholexical operation a predicate argument may undergo, there is a constraint that controls this process, known as:

the *suppression constraint*: "Only syntactically unmarked roles - those which have the IC [-*v*] - can be suppressed" (Alsina and Mchombo (1989)). (Where *v*= any feature value).

1.2.3.4 Conditions of grammatical well-formedness

The default classifications of theta roles provide the lexical forms of a verb. But in order to ensure that these forms are well-formed there are two fundamental conditions:

(a) The subject condition - Every f-structure must include the grammatical function SUBJ(ect).

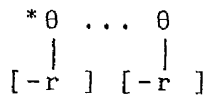
(b) Function-Argument Biuniqueness - "Each expressed lexical role must be associated with a unique function, and conversely.

1.2.3.5 Parametric variation

One of the most important and attractive aspects of the theory of lexical mapping is the capacity of reducing the different object asymmetries in languages such as the Bantu into one single and independent explanation by the identification of *parameters of variation.* Postulated first by Alsina and Mchombo (1988, 1989) as a constraint on IC of theta roles in Chichewa, the

constraint known as the *Intrinsic Classification Parameter* (Bresnan (1990)) and/or as the *Asymmetrical Object Parameter* (Bresnan and Moshi (1989, 1990)), has been identified as the key factor for the distinction between symmetrical and asymmetrical languages according to whether it is available in the language. They formally formulate this constraint as:

19. Asymmetrical Object Parameter (AOP):



That is, no predicate argument structure can have two internal unrestricted theta roles.

For instance the agreement facts of example (20.a-b) below may be unveiled by analysing the morpholexical operations involved in the predicate argument structure of the verb as in (20.c-d). Despite both NPs being in gender [1], the verbal agreement of the NP mapped onto theme **asaana aka** "my children" is ruled out:

20.a **ki - ho - m - mah - a mpewe asaana aka**
sp tm 1.om give tm 1.king 2.children poss.
I gave my children to the king

20.b [OVAHA] < ag go th > "give"
"OVAHA ((SUBJ) (OBJ_2) (OBJ))"
ki mpewe asaana aka
I king my children

20.c [OVAHA] < ag go th > "give"
i.c.: [-o] [-r] [-r]
def.: [-r]
f.u.: S S/O S/O
w.f.: *S O O

or:

20.d [OVAHA] < ag go th > "give"

i.c.:	[-o]	[-r]	[+o]
def.:	[-r]		[+r]
f.u.:	S	S/O	Oθ
w.f.:	S	O	Oθ

where: i.c.= intrinsic classification
def.= default classification
f.u.= functional underspecification
w.f.= well-formedness condition

From the intrinsic classification of theta roles involved in the thematic structure of the verb **ovaha** "give" we find that there is only one alternative intrinsic classification of the theta role *theme* acceptable to the well-formedness of the clause (20.a), i.e., [+o] as in (20.d). The rejection of (20.c) may be explained either by the function-argument biuniqueness condition (Bresnan and Moshi (1990)), which rules out that two unrestricted theta roles may be mapped onto grammatical functions with the same syntactic properties, such as cliticization; or by the above Asymmetrical Object Parameter, postulated by Alsina and Mchombo (1989) as the additional constraint of intrinsic classification, which claims that for every thematic structure there is one IC of [-r] only. Since at this stage of our research we do not know the status of the Asymmetrical Object Parameter in Emakhuwa yet, the two reasons why the OBJ(ect) NP **asaana aka** "my children" cannot trigger agreement in (20.a) may be taken as principled. Questions related to objecthood such as this and others are discussed in chapters three, four and five. In this endeavour our aim is not so much to find out more about the theory of lexical mapping applied to Emakhuwa data as to help us to identify the role of extension morphemes in a principled manner in the grammar of Emakhuwa extended verbs.

NOTES TO CHAPTER ONE:

1. There is often coalescence between the shape of the locative noun-class [16] with the copula *pi* "it is" as in:

Pa - a - thum - iy - e awe ole.
cp+16sp tm buy psv tm Rs dm
That is when he was bought

where Pa= pi+va. Va- alternates also freely with wa- and consequently with ve= we, vo= wo.

2. The terms *radical* (Guthrie (1948)) and *root* (Doke (1935)) are used equivalently and interchangeably.

3. Note that this usage differs from the traditional one referring to lexical sub-categories of the verb with a common paradigm of inflection. Ours refers to the different forms of the verbal paradigm, defined either by shape or by the intersecting systems of mood, tense, aspect, focus etc.

4. It is with due recognition of these scholars that we use their works in this outline of the theory. Any misleading use of the concepts in these works is of our own entire responsibility. As for the extent of theoretical development undergone by this theory look at the quotations and footnotes included in the works here referred to.

5. One wonders whether this split is necessary in the so called symmetrical languages, where two unrestricted "internalized" theta roles are allowed.

6. This constraint is later reconsidered by Bresnan and Moshi (1990) and proven to be the key factor for asymmetric variation of object behaviour in some languages, e.g.: Kichaga.

CHAPTER 2: THE MORPHOLOGY OF VERBAL EXTENSIONS IN EMAKHUWA

2.0 Introduction

The purpose of this chapter is to investigate the lexical features of extension morphemes and determine how such features relate to those of the input verbs with which they occur in the generation of new derived verbs. This involves an analysis of the morphological configurations of extension morphemes and the influence they exert both on the morphological shape as well as on the syntactic and semantic change of the input verbs with which they occur. This research is undertaken within the theoretical framework of lexical morphology. Hence, before we proceed with the analysis of our data, a brief overview on recent developments in the study of lexical morphology (Selkirk (1982), Williams (1981), DiSciullo and Williams (1987), Mchombo (1978)) is undertaken (2.1). We undertake the analysis of the morphology of extension morphemes assuming that the input to verbal derivation is word and provide a working definition of word (2.2.1) on the basis of which we proceed with the analysis of the data using Guthrie's terminology in a slightly modified way (2.2.1.1); we describe the different extension morphemes according to their syntactic-word relation with the input verb (2.2.1.2), and characterize the morphonological interaction between extensions and the input verb (2.2.1.3). In section (2.2.2) the meaning and function of extension morphemes are analysed. Despite Selkirk's view of headhood (1982) as having category-changing properties, we analyse extension morphemes in Emakhuwa and conclude that, although they are not category-changing morphemes, they are heads of

words in the sense that they establish relatedness between derived and input verbs. In (2.2.2.1), we also profit from Shepardson's (1986) application of Kiparsky's theory of lexical morphology (1983) in the classification of extension morphemes as a closed set of lexical items relating to one another not only morpho-semantically (Mchombo (1978)), but also in their complementary semantic distribution. This distribution is morphologically layer-ordered. The principle governing the distribution of the extension morphemes in layers is that of optimization of meaning, expressed by gapping and suppletion, blocking and skewing in the lexicon, discussed in (2.2.2.2) and (2.2.2.3) respectively. In (2.2.2.4) the possible combinations of extensions in $layer_2$ are analysed and their relation with $layer_1$ is established.

The lexical and syntactic information of extension morphemes is used to divide these lexical items into thematic and "modal" extensions (2.2.3).

2.1 Earlier research

The works on verbal extensions in Bantu tend to be either of descriptive nature, that is, with no particular linguistic theory in mind (Guthrie (1962), Whiteley (1968, 1970), etc.), or motivated by linguistic theories of some sort, (Alsina and Mchombo (1988), Baker, (1988bc), Bresnan and Moshi (1988), Givon (1965), etc.). Doctoral dissertations focussing directly or indirectly on extension morphemes in Bantu languages include Moore, (1966), Scotton, (1967), Eastman, (1967), Abdulaziz, (1976), Mchombo, (1978), etc.). Of these, Mchombo (1978) and Scotton (1967) have in common the reference they make to Transformational Grammar (TG) in the handling of their data.

However they diverge in that while Scotton uses TG as a tool for handling her data, Mchombo uses the data to critically appraise the theory. While Scotton assumes that verbal derivations involving extension morphemes are generated by syntactic rules of a transformational nature at "deep" structure, Mchombo finds no ground for this. Instead, he observes that extension morphemes, or "verbal suffixes" as he calls them, are derivational morphemes which are an expression of word formation rules. These rules operate in the lexicon and apply in precedence to the syntactic ones.

The difference in outlook between Mchombo and Scotton on the nature and the place of the rules involving extension morphemes corresponds to the dividing line, broadly speaking, between lexicalist linguists, that is, those who assign to lexical rules the crucial role of grammatical explanatoriness, (Bresnan (1980), Kiparsky (1987,1988), etc.), and transformationalist linguists, who, while allowing that certain idiosyncratic features of a lexical item are generated in the lexicon, credit the syntactic rules with the ultimate role of explaining grammatical intricacies (Chomsky (1981) and others)[1].

In the presentation of the data that follows, the former posture is taken and the arguments put forward by Mchombo (1978) and Bresnan (1977, 1978, 1982) are implicitly adopted. Thus, before we set about analysing our data, a brief overview of the main issues of the study of the lexicon within the lexicalist approach is undertaken as background to our research.

2.1.1 Lexical Morphology and the input to word derivation

The Lexicalist Hypothesis which establishes domains of application of the lexical rules distinct from those of the syntax may be regarded as a turning point both for the Transformational Generative theory of Grammar itself and for the legitimacy of morphology as a distinct component of language structure. Indeed, Chomsky's "Remarks on Nominalization" (1970) which concluded by recognizing that "derivationally complex words must be present in deep structure" (Selkirk (1982)) gave rise to the study of the lexicon and thereby of the morphology as an integral part of theories of language (Aronoff (1975), Bresnan (1977), (1978, (1982), Lapointe (1977), 1979), Brame (1978a), Williams (1981), Selkirk (1982) etc.). With the exception of Aronoff, these scholars share the view, with some *nuances*, that both inflectional and derivational morphology is generated by lexical rules. This theoretical stand-point, known as the "Generalized Lexicalist Hypothesis" (Lapointe (1980))[2], has engendered a claim that certain language instances hitherto handled by syntactic rules ought to be regarded as generated by lexical rules. As a consequence, a process of either narrowing the distance between the deep and surface syntactic structures, or even of disregarding the distinction altogether has emerged. Transformational Grammar, then "Extended Standard Theory of Grammar", became a more constrained theory of Grammar, and other theories of Grammar have sprung from the assumption that idiosyncratic features of lexical items may well be directly encoded at surface word structure or Sentence structure without recourse to movement or transformations. These theories

include the "Syntax of Words" (Selkirk, (1982)), "Generalized Phrase Structure Grammar" (Gazdar, (1985)), and "Lexical-Functional Grammar" (Bresnan, and others, (1982)).

The view that "words with derivational morphology and compound words are not formed by syntactic transformation" (Selkirk (1982), has become a current trend in the study of morphology known as "Lexical Morphology", (Jensen and Stong-Jensen, (1984)). This current includes such authors as Lieber (1981), Williams (1981), Lapointe (1981), Selkirk (1982) and more recently DiSciullo and Williams (1987).

The core assumption which pervades the works of these authors is that "lexical relatedness", is based on the fact that all morphologically complex lexical items, (i.e., derived and compound words), are "headed" and the relationship between two related words is regulated by the principle of "feature percolation", (Williams (1981), Lieber (1983), Selkirk (1982) etc.).

An element not always uncontroversial within the lexicalist approach to morphology concerns the input to word derivation. It appears that one's assumptions on how the lexicon is organized determine the putative level or category of the lexical item that may be taken as input to word formation. Given that the treatment of our data in this chapter assumes the hypothesis that the category or level of lexical items serving as the input to word derivation is different from those serving as the input to word formation, we summarize two partially similar views on the organization of the lexicon and on the input to word derivation, namely, Selkirk's X-Bar model of word syntax (1982) versus

Mchombo's proposal for the simplification of Thompson's model of organization of the lexicon (Mchombo (1978)).

Selkirk posits three levels of word structure, namely, word, stem and root, each encapsulating in its structure the other lower in the hierarchy, according to the following formula:

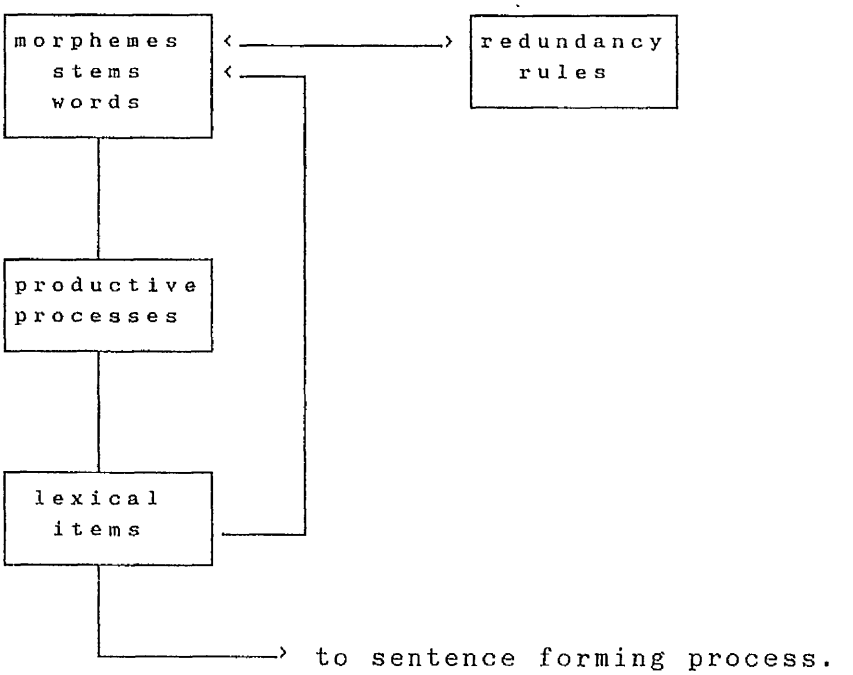
1. $X^{\emptyset}$ = Word, $X^{-1} = X^{stem}$, $X^{-2} = X^{root}$.

She also posits the category Affix=X^{af} and characterizes it with two peculiar features, namely, that it is not hierarchically ordered with other levels of word structure, and that it occupies only preterminal nodes. This allows that the input of word formation rules that derive new verbal lexical items through extension morphemes may, with no theoretical or methodological consequences, be indifferent of the category word, stem and/or root.

Mchombo undertakes an extensive review of the different views of how the lexicon is organized (Mchombo (1978:pp:78ff)). Amongst these he takes the view represented by Thompson, according to which the lexicon is "split into those items which are idiosyncratic, hence are lexicalized, and [those which can be] obtained by productive rules", (Mchombo, (1978:40ff) for more detailed discussion).

On this assumption many proposals on the organization of the lexicon have been advanced (Halle (1973), Thompson (1974), both referred to by Mchombo). According to Mchombo, (ibid.) Thompson's proposal is superior to any other model of organization of the lexicon and it is formalized in the following manner:

2. Thompson's organization of the lexicon:



(Due to Mchombo (1978)).

This componential view of the lexicon, proposed by Thompson and adopted by Mchombo is essentially coincident with that of Selkirk (1982:10-12), according to which, the lexicon as a component of the grammar of a language has the following subcomponents:

(a) "a list of freely occurring lexical items constituting the dictionary or the lexicon in the restricted sense.

(b) "A list of bound morphemes: roots, stems and affixes that together with the list of lexical items form the extended dictionary";

(c) "word structure rules which characterize the possible structures of a language". These include the redundancy rules, one of which stipulates that "for every word of the language, there must exist a derivation via the word structure rules of the language";

However, Mchombo diverges from both Selkirk and Thompson in proposing a simplification of Thompson's model of organization of the lexicon on the basis of the claim that "the only input to derivational word processes is the word".

Contrasting two approaches to word derivation, one that he calls **morpheme-cum-stem approach**, advocated by Lightner (Lightner (1975) referred to by Mchombo), and the other that he terms **word-based approach**, represented by Aronoff's theory of word formation (Aronoff (1976); see Mchombo (1987) for the detailed discussion), Mchombo finds the word-based approach more attractive on the following grounds:

(a) "It preserves the traditional conception of the role of derivational morphology. That is, that derivational formations must operate on simpler or more basic forms to produce forms substantially the same for grammatical purposes as those on which they operate".

(b) "Words being the only units which belong to major lexical categories, the word-based approach seems to preserve the traditional distinction drawn within derivational morphology between class-maintaining derivations, that is, derivations the output of which belongs to the same lexical category as that of the base, and class-changing derivations which produce derived forms of a different lexical category to that of the base".

(c) "It captures the native speaker's intuitions about the rules of the grammar of the language and removes the necessity of diachronic considerations in the assertion of relations between lexical items".

Selkirk appears to agree with Mchombo's proposal for simplification of the model of organization of the lexicon for derivational purposes when she admits that

"in principle it could turn out that the Word and only the Word is the (recursive) category type at play in language" (Selkirk (1982:7)).

However, motivated by theoretical claims about the classification of affixes in English derivational morphology, she parts from Mchombo's proposal that the word be the only input to the word derivation rules. Having in mind the provision of an explanation of the behaviour and distributional patterns of two types of affixes, distinguished as I/Class and II/Class Affixes, within English word structure, Selkirk maintains that "root and word are essential inputs for the description of full range of English word structures", the root being the input associated with words in the generation of which I/Class Affixes are involved and the word being the input for words the derivation of which II/Class Affixes are involved (see Selkirk (1982) for the characterization of affix classes).

On terminology, she defines the root as "the category type lower than the word and [conventionally] distinct from stem", a term she reserves for its "traditional association with [...] inflectional morphology".

In the treatment of the data here we assume Mchombo's view on the input to word derivation for reasons we present in the following subsection (2.2.1). Preceding this, in (2.2), we distinguish two types of lexical relatedness: inflectional, deriving from the conjugations of tense/aspect affixes with a verbal lexical item and derivational, originating from the conjugations of derivational affixes.

2.2 Lexical relatedness in Emakhuwa verbal derivation

Emakhuwa verbal lexical items may relate to each other either by inflectional processes involving conjugational morphemes of the kind described in section (1.4), or by morpholexical processes involving

suffixal morphemes, known in Bantu studies as extension morphemes, (Guthrie (1962)):

3.a **Juuma no - kuph - a mi - khacu**
pN tm prune tm 4.cashew trees
Juuma is pruning the cashew trees

3.b **Juuma ho - kuph - a mi - khacu**
pN tm prune tm 4.cashew trees
Juuma has pruned the cashew trees

3.c **Juuma no - kupha - a mi - khacu**
pN tm prune tm 4.cashew trees
Juuma is pruning the cashew trees

3.d **Juuma no - kuph - el - a mi - khacu**
pN tm prune for tm 4.cashew trees
Juuma is cutting clean for the cashew trees
(That is, he is cleaning around the cashew trees)

While verbal lexical relatedness in (3.a-b) is due to the fact that the lexical, semantic as well as phonological features of the verbal root in (3.a) are non-distinct from (3.b), differing only in tense and aspect, the relation of the two roots in (3.c-d) is derivational, in which the verbal root in (3.d) is morphologically speaking an extension of that in (3.c). Apart from the morphonological configuration, the extended radical in (3.d) has acquired new semantic and syntactic dimensions as well. In (3.c) **mikhacu** "**cashew** trees" is thematically the Theme/Patient and syntactically the Object. In (3.d) it is thematically the Beneficiary and intuitively the syntactic *secondary* Object. This suggests that extension morphemes have lexical properties of their own which, together with those of verbal radicals, generate new verbal lexical items. How these lexical properties are entered together with those of the verbs in the generation of new derived verbs is what the subsequent sections are all about.

2.2.1 Verbal word formation and verbal word derivation - a working hypothesis

Category-wise, extension morphemes may be classified as class maintaining derivational suffixes, for they subcategorize only for verbal lexical items. Given that these suffixes are a closed set with restricted combinatory possibilities, there is a strong suggestion that the rules which they morphologically index may be finite and constrained in their cyclicity.

For the reasons below, we assume with Mchombo, (2.1.1), that "the input to lexical derivational processes [must] be word in a relatively more abstract sense" (Mchombo (1978)):

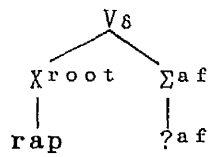
(a) Unlike English, verbal roots are always bound in Emakhuwa. That is, they are always associated with a sister. There is therefore no redundancy rule in Emakhuwa that derives a verbal word out of a single root as Selkirk posits for English.

(b) Since an affix must be assigned to a lexical category, and given that verbal roots or radicals are as bound as the extension morphemes, then, *mutatis mutandis*, roots must be associated with other lexical items to form words before they can serve as input to the derivation of other words.

Our working hypothesis is therefore that the Emakhuwa verbal lexicon has two types of rules of word generation: rules of verbal word formation and rules of verbal derivation. The former are more abstract than the latter, in the sense that they are redundancy rules that regulate the formation of words out of a combination of morphemes, while the latter govern the processes of word derivation out of the association of a word with a morpheme or morphemes.

Indeed, radicals or roots, as we understand them in Bantu, cannot be regarded as belonging either to one or the other of the two major lexical categories. They are both [+/-Noun] and [+/-Verb]. Due to this, the root or radical **rap** cannot satisfy the rewrite rule for the derived verbs **orapisa** "vomit"/causative and **orapiha** "bathe"/causative, for it would generate a tree that is unterminated and thus grammatically unacceptable, of the type in (9):

9. $*V_{\delta} \longrightarrow X^{root}\ \Sigma^{af}$



where Vδ represents an extended verb.

In other words, there is no way in which we can find out what the category of the **head** is, for we do not know the category of the head's sister. We must therefore posit a redundancy rule that promotes and allows X^{root} to coincide with the category level $X^{\emptyset}$, i.e., **word**. Since there are no monomorphemic verbal lexical items in Emakhuwa, the redundancy rule will have to make reference to both morphological and phonological configurations of the minimal verbal structure in Emakhuwa.

Now the minimal verbal structure in Emakhuwa is the imperative form. But the imperative form does not have the feature *listedness* (DiSciullo and Williams (1987)), that is, that lexical property that results in words being entered in the dictionary. Another minimal lexical structure which can be entered in the lexicon

and belongs to both major categories of Noun and Verb is the infinitive (1.4). Due to this, Guthrie termed it a "nomino-verbal" (Guthrie (1962)). We therefore take the infinitive verb form, which is formed by three morphemes, as the input to verb derivation in the analysis of our data[3].

On the one hand, the infinitive, apart from being the only quotable verb form for every verb root, allows us to formulate the redundancy rule by which extension morphemes subcategorize for verbs; on the other hand, as a lexical item with the category level word, its strict selectional restrictions allow for the morphological specification of the extension morphemes with which it occurs. That is, in the case of the radical **rap** above, only the lexical item **orapheya** "vomit" provides sufficient information to determine that the morphological configuration of the causative extension morpheme with which it occurs is not **iha** but **isa**. And only the lexical item **orapa** "bathe" provides enough information to determine that the causative morpheme with which it occurs is not **isa** but **iha**. This information cannot be attained if root is taken to be the input to verb derivation without recourse, in our view, to unnecessarily more abstract mechanisms of word derivation[4]. Hence the principle of category assignment to affixes, while laying the foundations for extension morphemes to be assigned the category feature [+V^{af}], is not sufficient to yield the strict subcategorization of the extension morphemes themselves. Only words, that is, unbound lexical items with the feature *listedness*, can provide the full specification, i.e., syntactic, semantic and phonological information of an extension morpheme.

Taking this as given then, Emakhuwa derived verbs may be said to be generated by a system of context-free rewrite lexical rules conforming to the following rule schemata:

10.a $X \dashrightarrow X^{\emptyset} \quad \Sigma^{af}$

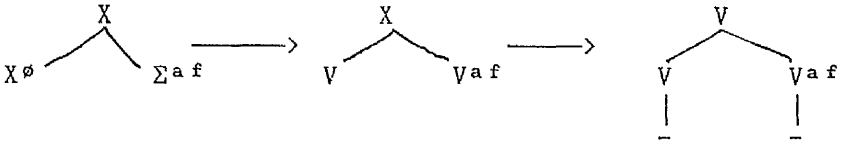
$X^{\emptyset} \dashrightarrow V$

$\Sigma^{af} \dashrightarrow V^{af}$

where:

X = any lexical item structurally *simplex* or derived
$\emptyset$ = category level word
Σ = extension morpheme
af = Affix

This generates the following tree structure-network

10.b 

Given the appropriate enunciation of the derivational morpholexical rule involved and the provision of its lexical entry (10.c):

10.c $V[_v[[V]+CAUS]_v]V$

-iha/-ULa/-ISa: (i) Causative extension morpheme

(ii) [Verb —]

(iii) Verbal affix

a (partial) lexical entry of the matrix verb (10.d):

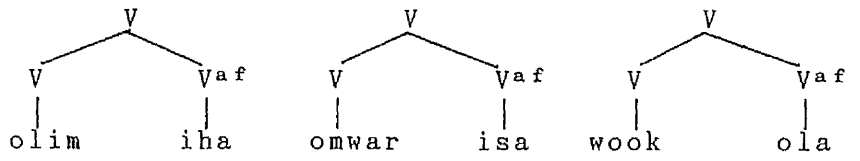
10.d olima (i) Verb
(ii) "OLIMA < ag th >" "cultivate"

omwareya (i) Verb
(ii) "OMWAREYA < th >" "spill"

wookowa (i) Verb
(ii) "WOOKOWA < th >" "be straight"

and the process of lexical insertion (10.e):

10.e



then (10.b) may yield the following derived verbs in (10.f):

10.f olimiha <Cause < ag th >> "cause to cultivate"[5]
omwarisa <Cause < ag >> --> < ag th > "spill"
wookola <Cause < th >> --> < ag th > "straighten"

These newly derived lexical items are generated under a set of well-formedness conditions (or, perhaps, redundancy rules) of derived words which make reference to phonological, morphological and semantic features of both the matrix verb as well as the extension itself.

2.2.1.1 Decomposition of Emakhuwa extended verbs

Selkirk's theory of affixation posits that grammars must

"represent explicitly the grammatically relevant information that is idiosyncratically associated with a particular affix morpheme".

In order to achieve this, she regards affixes as lexical items which must be assigned to a lexical category and, like an unbound morpheme, have a lexical entry consisting of three levels at which their idiosyncratic information is encoded:

(a) the syntactic level, which encodes the information about the syntactic properties of the affix. This consists of a subcategorization frame expressing the set of features of the affix and the category of its sister;

(b) the semantic level, which encodes the information about the semantic properties of the affix may affect the output in two ways, namely, either alter the thematic structure of the lexical item with which it occurs, or play a kind of "modal operator" role. On this basis affixes may be classified either as thematic or as "modifiers";

(c) the phonological level, which encodes the information about the phonological properties of the affix, includes the pronunciation of the affix, the tonal and stress properties, as well as the allomorphic and morphophonemic shapes both of the affix itself and of the surrounding environment. Like the syntactic and semantic properties, the phonological information must also be expressed "in the form of diacritic features associated with the affix in its lexical entry and a morphological representation", Selkirk, (1981).

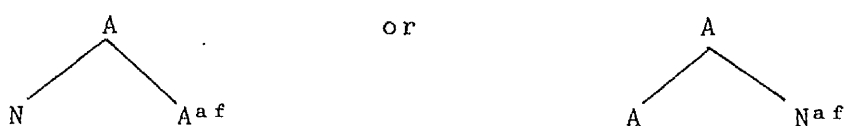
These three levels of morpho-syntactic and semantic information about the affix are decomposed using the principles of "head" of a word and "feature percolation". The concept of head of a word

"allows for capturing the relationship between an affix and the syntactic features of its dominating category" Selkirk (1982).

For the rules of affixation generate structures:

"in which one of the daughters, either the affix or the sister, bears the same syntactic category as the dominating node" (Selkirk (1982))[6]:

11. A ---> N A^{af} or A ---> A N^{af}



This allows for the following generalization:

"when the category of an affix's mother is not the same, (in terms of syntactic category features), as the category of its sister, then it must be that the affix is the head" (Selkirk (1982)).

That is:

12. Percolation:

"If a constituent *α* is the head of a constituent *ß*, *α* and *ß* are associated with an identical set of features."

The characterization of extension morphemes as lexical items whose lexical entry includes such features as:

13.a Σ = [-N, +V]

(i.e., categorial status of Σ = Verbal).

13.b Σ/[V——]

(i.e., Σ subcategorizes for Verbs).
(In both cases Σ = Extension morpheme).

amounts to admitting that extension morphemes belong to a class of affixes known as "category-maintaining" affixes.

A claim of this nature opens the way for their being regarded as behaving as inflectional affixes. According to Selkirk (Selkirk (1982:74-77)) this would lead to the extension morphemes never being regarded as heads of an extended lexical item. Indeed, Selkirk posits that "inflectional affixes are never heads", an assumption she finds "to be consistent with the fact that they tend not to be "category-changing".

Although Selkirk admits that for her claim to gain a theoretical force it would require:

"a characterization of the notion **inflectional** in the first place",

she plainly links **headhood** to the ability of an affix not only to share the same syntactic and diacritic features with the mother node but also to change its lexical category[7].

Although extension morphemes may not change the lexical category of their mother node, we intuitively maintain that these affixes are heads and in (2.2.2) and (2.2.3) we discuss the kinds of meaning encoded by these morphemes on the basis of this assumption. What follows is an endeavour to analyse the morphology, function and meaning of extension morphemes by decomposing Emakhuwa derived verbs. Although we do not formally make use of the concepts of "head" and "feature percolation", the characterization of extension morphemes in these sections assumes these principles as underlying.

We introduce the different extension morphemes in Table 2.1 and characterize the terminology used, before analysing their morphological shape (2.2.1.2) and the shape of the derived verbs (2.2.1.3). The list in Table 2.1 includes examples of every extension morpheme recorded from the corpus we characterized earlier and that are known to exist by the author in Emakhuwa.

The sample is given in the infinitive form. The sample in column (a) is in the form that henceforth will be termed the **matrix** form, and the one in column (b) the **extended** form. In this table the gloss given in the extended form is exemplificative and may not represent all the different readings of the particular extension. Examples of combinations of extensions are for the moment left out.

Table 2.1: Sample of extension morphemes in Emakhuwa.

2.1 (a) (b)

-ACa Dual or Iterative

waakha	"snatch"	waakhaca	"snatch everything"
waakuva	"be quick"	waakuvaca	"hurry up"
ohimya	"tell"	ohimyaca	"tell thoroughly"
othuma	"buy"	othumaca	"buy together"
weemela	"stop"	weemelaca	"stop together"

-AKACa Iterative or Frequentative

waatta	"beat"	waattakaca	"beat frequently"
weetta	"walk"	weettakaca	"perambulate"
oluma	"bite"	olumakaca	"bite many times"
olima	"cultivate"	olimakaca	"cultivate here and there"

-ESa Intensive or Frequentative

okhala	"be/live"	okhalesa	"remain/stay often"
oreera	"be nice"	oreeresa	"be excellent"
okhuma	"get out"	okhumesa	"get out often"
olima	"cultivate"	olimesa	"cultivate hard/ /often"

-ANa Reciprocative or Comitative

weetta	"walk"	weettana	"walk with/together"
ohiya	"leave"	ohiyana	"leave each other"
ohuva	"suffer"	ohuvana	"suffer with/from each other"
orupaathi	"lie down"	orupaathana	"sleep with"
okhala	"be/live"	okhalana	"have"/"be with /live with"

(cont.)

Table 2.1 (a) (b) (cont.)

-ELa Applicative or Prepositional

waakhula	"reply"	waakhulela	"reply on behalf"
waakuva	"be quick"	waakuvela	"dash towards"
waapeya	"cook"	waapeela	"cook for sbody."
ocaca	"get angry"	ocacera	"get angry for sthg."
ohimya	"tell"	ohimerya	"tell to sbody."

-EYa Stative, Neutral or Potentiative

wiira	"say/do"	wiireya	"happen/be sayable"
woona	"see"	wooneya	"be visible"
opaka	"make/do"	opakeya	"be makeable/happen"
okhuna	"fold"	okhuneya	"be foldable"

-IHa Causative or Adjutive

waakha	"snatch"	waakhiha	"help"
waakuva	"dash"	waakuviha	"accelerate"
weetta	"walk"	weettiha	"drive" /"cause to walk"
okhuma	"get out"	okumiha	"take out"
othota	"shrink"	othotiha	"abate/shrink"
ototha	"seek"	ototiha	"cause to seek" (dog)
othuma	"buy"	otumiha	"sell"/"cause to buy"
orapa	"bathe"	orapiha	"wash"/"cause to bathe"

-IYa Passive[8]

waakha	"snatch"	waakhiya	"be snatched"
waakhula	"reply"	waakhuliya	"be replied"
wiinciva	"be many"	wiinciviya	"be abundant"
okoha	"ask"	okohiya	"be asked"
okhwa	"die"	okhwiya	"be dead"

(cont.)

Table 2.1 (a) (b) (cont.)

-ULa/-OLa(i) Causative-Reversive
((i): sometimes alternates with -EYA)

waapeya	"cook"	waapula	"remove from cooking"
oruweya	"soak"	oruula	"take off water"
okhuneela	"cover"	okhunula	"uncover"
otthuka	"tie"	otthukula	"untie"
ottheya	"close"	otthula	"open"
othomeya	"hang"	othomola	"unhang"
opakhira	"load"	opwakhula	"discharge"

-ULa/-OLa(ii) Causative
((ii): alternating with -UWa/-OWa)

wookowa	"get straight"	wookola	"straighten"
woopowa	"be free"	woopola	"free"
othomowa	"get down"	othomola	"cause to fall"
okomowa	"be demolished"	okomola	"demolish"
okhunuwa	"be uncovered"	okhunula	"uncover"
oworowa	"be twisted"	oworola	"twist"
ofyonyowa	"be bruised"	ofyonyola	"bruise"
ovukuwa	"be decreased"	ovukula	"decrease"
opwakhuwa	"be unloaded"	opwakhula	"unload"

-ISa Causative

ophweya	"break"	opwesa	"break"/transitive
orukunuwa	"turn"	orukunusa	"turn"/transitive
ovuwa	"raise"	ovusa	"cause to raise"
ovuluwa	"fall"	ovulusa	"cause to fall"
weemela	"stand up"	weemesa	"cause to stand"
orapheya	"vomit"	orapisa	"cause to vomit"
othupuluwa	"run"	otupulusa	"cause to run"
otothowa	"melt"	ototosa	"cause to melt down"
okhora	"subside"	okorosa	"end singing/story telling"
otthekuwa	"sunset"	ottekusa	"wait until sunset"
ottharuwa	"punish"	ottarusa	"punish"/transitive

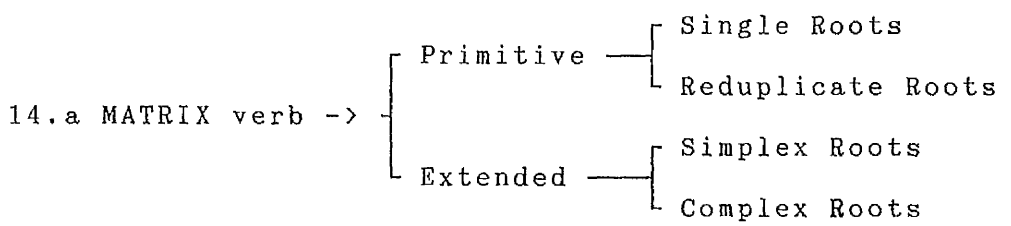
-UWa/-OWa Stative-Reversive

otthuka	"tie/close"	otthukuwa	"get open"
waapeya	"cook"	waapuwa	"be removed from cooking"

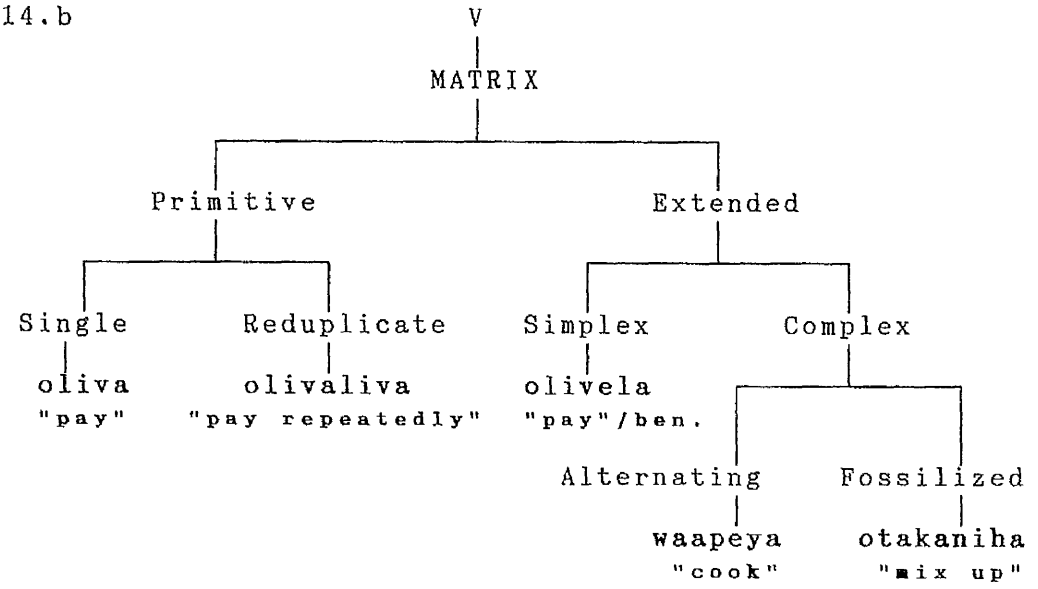
Guthrie (1962) has made distinctions between radicals occurring in verbs using the terms **simplex** to refer to "the shortest type of radical", **extended**, "the longer related types", and **complex**, "any longer radicals which cannot be broken into a simplex radical and an extension".

We have adopted and slightly adapted the terms simplex and complex that have been suggested by Guthrie, using **simplex** (in opposition to complex) to include all verb forms that are generated by regular and/or productive processes of word derivation rules indexed by extension morphemes, the input of which is either a verb with a primitive root or an already extended simplex verb. The category **complex** encompasses lexicalized verb forms that have been generated by idiosyncratic processes of word derivation based either on idiosyncratic radical-bound extension alternation or on formerly productive extension morphemes.

We have introduced the term **matrix** verb to refer to any verb form that serves as an input to the generation of a new verb through the regular and productive processes of word derivation in which extensions are involved. A matrix verb may, therefore, be structurally classified as **Primitive** or **Extended**. Schematically the Emakhuwa verb may be said to fall into types which may be partially characterized by the structural verb network in (14.a) or perhaps more visually in (14.b):



14.b



2.2.1.2 Radical-bound and radical-free extension morphemes

The distinctions between primitive and extended radicals, on the one hand, and between simplex and complex verbal radicals on the other, given in (14.b), have been sufficiently illustrated. What has not been illustrated in (14.b) is the distinction between complex *alternating* radicals and complex *fossilized* radicals.

Observing the different types of extension morphemes exemplified in table 2.1, one finds two types of relationship between the extension and the input verb:

(a) cases in which the shape of the output is morphologically analysable. That is, it is possible to trace the primitive matrix verb that has served as an input to the generation of the extended verb forms. Extensions occurring in this process of verb derivation are characterized as radical-free extension morphemes:

15.a	olimeya	<-	olima	"cultivate"
	oliveya	<-	oliva	"pay"
	orapiha	<-	orapa	"bath"
	weettela	<-	weetta	"walk"

(b) cases in which the shape of the output is either partially analysable or not analysable at all. We characterize the category of morphemes involved in this process as *radical-bound* extension morphemes. The ones which allow a partial morphological analysis comprise a limited number of sets of verbs displaying alternating extension morphemes without there being any corresponding primitive verbs:

15.b	waapeya	"cook"
	waapula	"put off the cooking"
	waapuwa	"get taken off the cooking

but, **waapeya <-- *waapa**

weemesa	"stop"/"cause to stop"
weemela	"stop"/"stand"

but, **weemela <-- *weema**

The cases which allow no possible analysis are those which we characterize as complex fossilized or lexicalized radicals:

15.c	otakaniha	<-	*otaka	"mix up"
	otapana	<-	*otapa	"be unlucky"

The latter are also known as pseudo-extended verbs (Whiteley (1968)), a term deriving, perhaps, from the similarity of their morphological shape with some radical-free extension morphemes.

The features involving the alternation process in (15.b) are:

(a) reciprocal regular substitutibility
(b) limited number of the lexical items with which they occur;
(c) inseparability between the morpheme and what with radical-free extension morphemes looks like a verbal radical. That is, they may never occur in any place other than immediately after what looks like the primitive radical.

These features have led us to classify this process of verb derivation as idiosyncratic. Given that they never occur after a radical-free extension morpheme there is a strong suggestion that this process of word derivation takes place in a different morphological layer order. See (2.2.2.2) for further development.

2.2.1.3 On morphonological interaction between the input lexical items and the shape of the derived verb

Assuming Aronoff's position, that "every lexical rule specifies a unique phonological operation on the base" (Aronoff (1976)), we provide an overview of the main morphonological rules instantiated in the shape of the derived verbs, which are a reflex of the shape of the input extension morphemes. As discussed above, certain extension morphemes are idiosyncratically fused in such a way that the radical of the input verb cannot be identified by regular rules of phonology. However, regular extension morphemes may alter the morphonological shape of the output verb to the extent that only by knowing the phonological rules of the

language can one establish the root of the changes effected. The changes often occurring in the output verb include:

(i) De-aspiration:

Aspirated consonants of the input verb become de-aspirated when followed by extensions -iha and -isa:

16.	opattha	"obtain"	opattiha	(caus)
	okhuma	"get out"	okumiha	(caus)
	othuma	"buy"	otumiha	(caus)
	ophweya	"break"	opwesa	(break/tr.)
	orapheya	"vomit"	orapisa	(caus)
	othomola	"unhang"	otomosa	(rever./tr.)
	othupuluwa	"run"	otupulusa	(caus)
	otthekuwa	"recline"	ottekusa	(caus)
	ottharuwa	"repent"	ottarusa	(punish)
	etc.			

(ii) Vowel dropping:

The final vowel of the input matrix verb gets dropped when an extension morpheme occurs with it. There are some cases in which this process is not straightforward. With a very limited range of matrix verbs, whose final vowel is preceded by a glide when the rule of the Applicative is applied it seems that the extension is interposed between the glide and what looks like the radical:

17. ohimya "say" ohim-<el(a)>-ya --> ohimelya --> ohimerya
olya "eat" ol-<el(a)>-ya --> olelya

(iii) Vowel assimilation

The shape of the extension morpheme may also be altered by the phonological features of the consonantal or vocalic combination of the input verb. Usually the initial vowel of radical-free extension morphemes is never altered by the preceding vowel of the input verb. It appears however, that the initial vowel of alternating radical-bound extensions is affected by vowel harmony from the preceding vowel of the alternating radical, (ul --> ol /oC ——):

18.

waapeya	"cook"	waapula	"remove from cooking"
oruweya	"soak"	oruula	"take off water"
okhuneela	"cover"	okhunula	"uncover"
otthuka	"tie/close"	otthukula	"untie"
ottheya	"close"	otthula	"open"
ottheka	"set"	otthekula	"unset"
othomeya	"hang"	othomola	"unhang"
wookowa	"get straight"	wookola	"straighten"

(iv) -Ela/-Era alternation

When the Applicative rule is applied to input verbs having a CVC radical structure, in which the last consonant is either fricative or palatal, there is often an alternation of the Applicative morpheme -ela giving rise to allomorphic variation -ela/-era:

19.a	wanca	wancera	"start"/(appl)
	waavya	waavyera	"seek"/(appl)
	waaya	waayera	"be ready"/(appl)
	ocisa	ocisera	"take"/(appl)
	weesa	weesera	"put"/(appl)
	win'ya	win'yera	"steal"/(appl)
	win'wa	win'wera	"hear"/(appl)
	olica	olicera	"start"/(appl)
	opica	opicera	"delay"/(appl)
	ophiya	ophiyera	"arrive"/(appl)
	ophwanya	ophwanyera	"find"/(appl)

Exceptions:	_____	ocacela	"dance towards somebody"
	cf.	**ocacera**	"be angry"/(appl)
	_____	onukherya	"smell bad"/(appl)"
	cf.	**onukhela**	"smell"/(appl)
(however:	_____	oleehera	"instruct/leave message"
	cf.	**oleehera**	"say good-bye"/(appl))

where the verbs seem to have acquired specialized meaning.

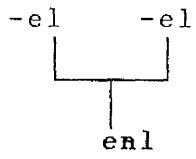
Where multiple extensions are involved, or where the matrix verb is complex the result is indeterminate:

19.b	opwesa	opwesera	"break"/(appl)
		opwesela	
	orapisa	orapisera	"induce to vomit"/(appl)
		orapisela	
	weemesa	weemesera	"stop"/(appl)
		weemesela	

(v) Nasal realization of -Ela applicative morpheme

The sequence of double applicative is often avoided by nasalizing one of them. This rule consists of a vowel dropping and subsequent superimposition of a nasal which replaces the first morpheme as in (20):

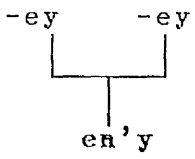
20.

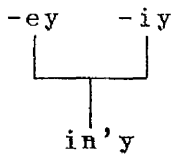


olima "cultivate" olimelela/double Applicative
olimenla/nasalized double Appl.

Other nasal realizations include the Stative and the Passive when these morphemes are preceded by vowels of the same quality or height:

21.





othomeya "hang"
othomeyeya --> othomen'ya "get hangable" /Stative
othomeyiya --> othomen'ya "be hung"/Passive

2.2.2 Meaning and function of extension morphemes

Although extension morphemes cannot alter the category of their mother nodes, they nevertheless change their semantic (i.e., their predicate argument structure and/or aspectual meaning), and/or syntactic features. Just as some verbs require an NP in the instantiation of their selectional restrictions and others do not, some extension morphemes express lexical rules which require an introduction or reduction of a theta role in the predicate argument structure and some do neither.

It appears therefore that the headhood of extensions, if not of all suffixes, should be regarded as a multifunctional feature including, (but not reducing to), the ability of category-changing. Just as the function of an inflectional affix must be percolated to the parent node, the function of an extension morpheme will have to be specified in the features of the output lexical item. Since it cannot change the category of the output, its headhood will not be associated with that ability, but rather it will be a function of the relevant features that need to be specified in the output lexical item as required by the condition of well-formedness. This amounts to regarding headhood as essentially a relational concept not contextually but rather functionally fixed[9]. That is, according to whether or not the lexical rules instantiated by some extension morphemes require the specification of certain features, such as predicate argument structure, for the well formedness of the derived lexical item, then the matrix verb, i.e., the extension's sister, may be the functional head for those features.

In this section and in section (2.2.3), we analyse the extension morphemes semantically and syntactically. We distinguish extensions expressing only aspectual meaning and those that modify the predicate argument structures of the input verbs with which they occur. In this analysis we assume that extension morphemes are heads in a more abstract sense. That is, lexical relatedness is also taken beyond its commonly morphosyntactic understanding to integrate the lexical processes of blocking, suppletion and skewing. Recent studies of Kiswahili extension morphemes (Shepardson (1986)) provide a methodological approach to this question that we hope to explore in due course within this section.

2.2.2.1 Layer ordering, precedence and optionality of extensions in the Emakhuwa extended verb form

Since the meaning of an extension is a component of the output of the application of a given lexical rule it must necessarily be regarded as part of the meaning of a word that has been derived by such a rule. As such the meaning of an extension is first and foremost relational, i.e., it is that element that results in two or more lexical items being regarded as related to one another. In discussing morphological rules and rule ordering, Mchombo (Mchombo (1978:122)) raises the question of lexical relatedness. Although he does not dwell at length on this issue, he holds the view that for two lexical items to be lexically related, they must be both morphologically and semantically related. He recognizes however the fact that words can drift semantically from the base:

"WFRs [word formation rules] derive the new words from the other words subject to [morphological, phonological, syntactic, and semantic] constraints and whilst the semantic content of the resultant word form would, on the whole be expected to exhibit a reasonable degree of relatedness with the base, it must be realized that as the new form gets listed and entrenched in the vocabulary of the language it may undergo a semantic drift thereby making its total incoming [sic] appear rather tenuously connected to that of the base". (Mchombo, (1978:124-5)).

The view of lexical relatedness held by Mchombo brings about an apparent tangle when taken with the fact that some lexical rules of word derivation are indexed by different morphemes. For instance the CAUSATIVE lexical rule of word derivation in Emakhuwa may be said to be indexed by the morphemes:

22. -IHa, -ISa and -ULa

22.a	olima	olimiha	"cultivate"/"cause to cult."
	oliva	oliviha	"pay"/"cause to pay"
	opica	opiciha	"delay"/cause to delay"

22.b	oraphyeya orapisa	"vomit"/"cause to vomit"
	othuluwa otulusa	"melt"/"cause to melt"
	omwareya omwarisa	"spill"/"cause to spill"

22.c	wookowa wookola	"be straight"/"straighten"
	woopowa woopola	"be free"/"liberate"
	okhunuwa okhunula	"get uncovered"/"uncover"

According to Mchombo, there is no lexical relatedness whatsoever amongst the lexical items above, although they share the causative meaning[10]. However, as regards Emakhuwa data, there seems to be a need to bring in another aspect of lexical relatedness. In our view, the three morphological instantiations of the lexical rule of causative in Emakhuwa provide a good illustration of a split within the system of lexical rules of verb derivation. This split suggests that there are levels or shades of idiosyncrasy in verbal derivation. These levels of idiosyncrasy are translated into morphological indexes which may in turn be associated with layers or order of occurrence.

Assuming that every lexical item satisfies a semantic need, then the lexical items instantiated by the three causative morphemes must be related to each other in the sense that the occurrence of one blocks or complements the occurrence of the other. There seems to be therefore a system of morphological layers (Kiparsky (1983) at which each of the three extension morphemes occurs indexing the causative lexical rule. What follows is an attempt to identify these layers and assess their productivity.

According to Shepardson (1986)[11], Kiparsky's theory of morphology allows one to make a "sharp distinction on the basis of regularity or predictability between

lexicalized affixes and those which are still productive". For Kiparsky's Lexicalist approach of "**level ordered morphology**" allows for a classification of phonological processes and for the description of how they are applied at each level:

"Each level or layer of morphology has its own set of phonological rules. Derivational and inflectional processes are distributed among the various levels according to their regularity".

These layers correspond to both the morphological configurations motivated by the type and quality of productivity of the morphemes and to their distributional positions in the lexical items. Thus, according to Kiparsky the first level would include any irregular inflectional morphemes as well as the less productive derivational affixes. According to Shepardson, the derivational morphemes in this layer,

"in addition to their structural irregularity are generally characterized by their inconsistent semantic content".

Layer two is the one at which productive derivational morphemes operate, the level at which "speakers create new words as the need arises", while layer three is the realm of inflectional processes[12].

One of the motivations for the organization of the affixes into ordered sets is that it captures the concept of blocking which arises from the satisfaction of the *need* of *meaning*:

"if a word which fills a particular "need" is generated in an earlier layer, the subsequent derivations cannot apply" (Shepardson (1986) quoting Kiparsky, (my emphasis)).

Thus, blocking occurs in (23):

23. *foots but feet
*oxes but oxen

Where the blocking fails, and as a result two forms are generated, the morphological rule becomes optional, (Shepardson (1986)):

24. learnt and learned
knelt and kneeled
brethren and brothers

As for Emakhuwa, without going too elaborately into Shepardson's work, the phonological as well as morphological distinctions of morphemes we have described in the previous sections suggest the existence of at least two processes of word derivation in Emakhuwa, each of which occurs in a given morphological layer or order. These processes may be recapitulated in the following manner:

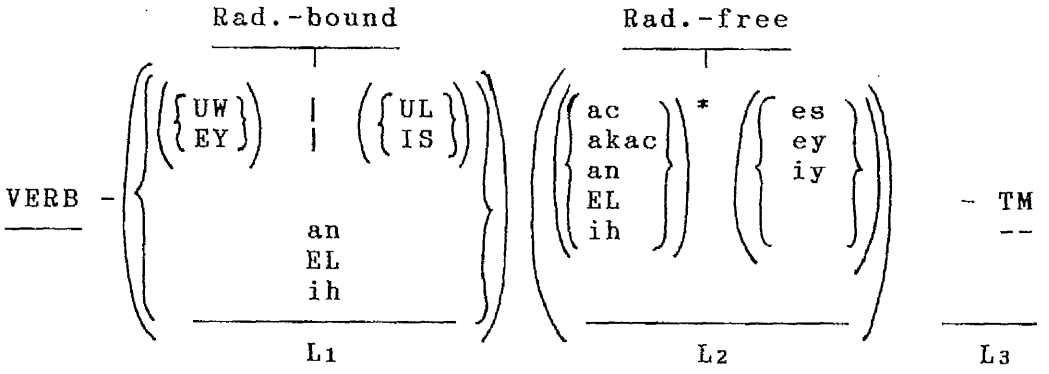
Emakhuwa word derivation:

(a) productive or regular processes of word derivation,
(b) idiosyncratic processes of word derivation which in turn are subdivided into:
(i) Lexicalization by alternation of radical-bound extensions
(ii) Lexicalization by fossilization of former (or otherwise) productive extension morphemes.

Assuming that, as a system of morphological instantiation of lexical rules, the occurrence of one of these lexical processes of verb derivation may determine the occurrence or the blocking of others,

then, on the basis of Kiparsky's theory of layer-ordered lexical morphology, a layer ordering is proposed for the morphology of verbal derivation in Emakhuwa as in table 2.2:

Table 2.2 Layer-ordering of extension morphemes in Emakhuwa:



Key: ( )= optional occurrence of single element
( )*= optional occurrence of one or more elements
{ }= any one of given elements
(x¦y¦z)= occurrence of x,y and z as alternating elements
(x) (y)= (x) followed by (y).
L_1, L_2, L_3= Layers

(Note: In very restricted cases, the L_2 cycle can be repeated, e.g.: giving the morpheme sequences:

-iy - ih (-iy)
-ey - el -

See (5.1.3) and (5.2.3)).

The proposal above suggests the existence of two layers at which extension morphemes are entered. The idiosyncratic process of extension alternation instantiated by a limited number of extensions and a restricted number of verbal lexical items is assumed to occur in layer$_1$, which is subdivided into two

options: option$_1$ for alternating radical-bound extensions, and option$_2$ for fossilized and lexicalized (i.e., with specialized meaning) extension morphemes.

Although assuming that the occurrence of one extension morpheme is independent of another, our analysis assumes that an instantiation of a lexical item by an extension morpheme, simplex or complex, provokes a restructuring wave, so to speak, within and across the lexicon whose ultimate "*raison d'etre*" is the satisfaction of a lexical "need". In this sense we regard lexical relatedness as part of a wider system of optimization of meaning, whether aspectual meaning or syntactic meaning or both. This system of optimization of meaning includes mechanisms such as suppletion and gapping, blocking and skewing. The analysis of the meaning of an extension is undertaken here by confronting it with meanings of other members of the same group or morphological layer and by contrasting those of one layer with those of another layer.

Without suggesting that extensions are reducible to mechanisms of suppletion, or filling some gaps in the lexicon, this analysis is carried out assuming that these processes are the underlying feature. By so doing we believe that we have avoided the difficulties experienced by Scotton (Scotton (1967)) which forced her to *ostracize* some lexical processes of word derivation as extra-systemic, through the establishment of distinctions such as "extended shape class", and "extended form class".

2.2.2.2 Gapping and suppletion as patterns in layer ordering of extension morphemes

The proposal of morphological layer ordering has been carried out under the assumption that extensions, as morphological instantiations of lexical rules of word derivation, form a structural network designed primarily for the optimization of *meaning*. What follows is an attempt to interpret this proposal. We will do this by analysing the meaning of the extensions in each layer as a coordinated system of meaning with other extension morphemes within and across layers.

The proposal presents three layers:

(i) L_1 at which idiosyncratic processes of word derivation take place.
(ii) L_2 at which regular and productive processes of word derivation operate, and
(iii) L_3 at which most inflectional processes of tense and aspect occur.

Our hypothesis is that the morphemes in layers L_1 and L_2 are not only semantically coordinated with the matrix verbs with which they occur, but they coordinate the two layers as well, by processes of gapping and suppletion. The instantiation of a given lexical rule may not be allowed in layer$_1$ or in layer$_2$ depending upon its productivity and idiosyncrasy. This is what we regard as gapping. We have found that some of the gaps, so to speak, that are not filled within one layer are filled in the other layer either by regular processes of word derivation or, *mutatis mutandis*, by idiosyncratic means of word derivation which may include fossilization of productive forms. Where a particular lexical rule cannot be effected by means of a given morpheme, due to that rule being indexed in another layer by another morpheme, we regard the two morphemes as entertaining a suppletional relation.

The layer L1 is the realm of idiosyncratic processes of word derivation. It embraces two major processes of word derivation: one group with a very limited productivity generates verbs idiosyncratically by alternation of radical-bound extensions; another group derives new lexical items by fossilizing former productive extension morphemes. The two groups occur independently and optionally. The morphemes in layer L1 conform with Shepardson's claim that

"in addition to their structural irregularity they are generally characterized by their inconsistent semantic content".

This is illustrated in (25):

25.a	wookowa/wookola	"get straight/"straighten"
	woopowa/woopola	"be free"/"free"
	waapuwa/waapula	"get taken off/"take off the cooking fire"
	opwacuwa/opwacula	"be ridiculous"/"ridicule"
	opahuwa/opahula	"be deformed"/"deform"
	ovacuwa/ovacula	"get broken off"/"break off"
	waacuwa/waacula	"get plucked"/"pluck (bird)"
	ohacuwa/ohacula	"start to go wrong"/"set something going wrong"

but,

25.b	olattuwa/olattula	"get spread (fire)"/"invite"
	othuluwa/othulula	"get diluted"/"make beer"

where the morpheme -ULa, in alternating with -UWa, appears to maintain its transitivizing role in (25.a), but shows semantic skewing in (25.b). The same can be said of the alternating morpheme -EYa:

26.a ophweya/opwesa "get broken"/"break"
omwaryeya/omwarisa "get spilt"/"spill"

26.b othomeya/othomola "hang"/"unhang"
waapeya/waapula "cook"/"remove from cooking"

26.c opwetheya "pass away"
otereya "get furious"
waaleya "flourish"

where although in (26.a) the morpheme -EYa has the same thematic information as in (26.c), i.e., the highest theta role is *theme*, the examples in (26.c) are not members of the set of the lexical items that are deriveable by alternating processes. And in (26.b), although the lexical items display the same alternating processes of verb derivation as in (26.a) the morpheme has a different thematic structure altogether, i.e., the highest theta role is *agent*. On this evidence one may suggest that the suppletional relation between extension morphemes may be entertained even within a single layer.

2.2.2.3 Blocking and skewing and extension morphemes

In this section we analyse the occurrence of extension morphemes in the different layers on the assumption that **blocking** and **skewing** is a general and governing principle in the optimization of the meaning of lexical items and in the layer ordering of their morphemic indexes. A brief introduction of the concept of blocking and skewing will help to clarify our meaning and relate it to the current discussion.

Shepardson (1986), referring to Kiparsky's theory of lexical morphology and phonology states that,

"the blocking principle claims that if a word which fills a particular "need" is generated in an earlier layer, the subsequent derivations cannot apply." (my emphasis).

On the other hand, in the discussion about the properties hitherto considered to be the realm of words Di Sciullo and Williams (1987) put forward arguments which are designed to show that such properties are indeed not exclusive to words. One such property is that of blocking. After having stated that "it is quite unclear what blocking actually is", they quote Aronoff's notion of the concept:

"We may assume that the lexicon is arranged according to stems and that for each stem there is a slot for each canonical meaning, where "canonical" means derived by regular rules.... Let us furthermore assume that for each stem there cannot be more than one item in each meaning slot".

One of the most important insights of Aronoff's concept of blocking, as pointed out by Di Sciullo & Williams, is that "blocking is based on meaning." DiSciullo and Williams (1987:10-11) comment on this concept and expand their view with the following statements:

"A word is blocked only by existence of a synonym. Whenever two words mean the same thing, even where they are morphologically unrelated, they tend to diverge in meaning. Blocking results from a general abhorrence of synonym".

Although Di Sciullo and Williams' expansion of Aronoff's notion of blocking is designed to serve other purposes we have found it partially relevant to our own cause, that is, the definition of blocking as we use it in the analysis of our data. Kiparsky's concept of blocking, as **available** to the organization of derivational morphemes in layers on the basis of

satisfaction of "lexical need", appears to us not far removed from Aronoff's concept of blocking based on slot and canonical meaning filling. More importantly it appears to us that our view of extension morphemes as a structural network designed to ration meaning is perfectly accommodated and handleable within either Kiparsky's or Aronoff's concept of blocking. We regard blocking and skewing as a governing pattern in the lexical relatedness instantiated by extension morphemes. Indeed, while on the one hand, gapping and suppletion as a structural mechanism of rationalization of meaning may be said to express a formal manifestation of blocking, on the other, "blocking of the blocking" (Di Sciullo and Williams (1987)), (that is, specialization of meaning removes the blocking effect of synonyms and permits the emergence of a previously blocked "regular" form at a later level, e.g: **othuma** "buy" **otumiha** "cause to buy" and **otumiha** "to sell"), in Emakhuwa signals a process of lexicalization embodied in the notion of skewing, which is a primary step towards fossilization and formation of new and independent lexical items.[14]

In the light of blocking and skewing, as given in this introductory note, we now turn to the interpretation of gapping and suppletional relation that is entertained in layer1 between the morphemes -UWa and -EYa, on the one hand, and -ULa and -ISa, on the other. Our working hypothesis is that the lexical rules known as "stative" and "causative" may be instantiated both by idiosyncratic and by regular processes of lexical derivation.

Where such rules are expressed by idiosyncratic means, morphemes in layer1 are selected. Any mismatch of morphemes within the same layer or from layer1 to

layer2 or vice-versa signals that a process of skewing is in action, that is, the "canonical meaning" of the morphemes involved is no longer holding. In other words, no two morphemes are allowed to instantiate the same lexical rule in the same morphological layer.

The lexical rule known as "stative" (Guthrie (1962))[13] is idiosyncratically indexed in Emakhuwa by the morpheme -UWa, while the regular process of expressing the same rule selects the morpheme -EYa in layer2. Since the two morphemes perform one and the same function in two different morphological layers, the occurrence of both in the same morphological layer is allowed if, and only if, one of them loses, so to speak, its "canonical meaning". This explains why the morpheme -EYa in layer1 cannot be expected to perform its canonical meaning as in layer2 without becoming idiosyncratic. Even where it has become idiosyncratic, -EYa as a "stative" index morpheme cannot be expected to be as productive in layer1 as it is in layer2, given the presence of -UWa. Indeed this amounts to positing that -EYa as a stative indexing morpheme in layer1 is blocked by the morpheme -UWa. The counter-examples recorded are too meagre and too suspicious to be regarded as constituting a case for "blocking of blocking":

27.

ophweya	"get broken"
omwaryeya	"get spilt"
omwaryeya	"get spread"

All we can say about these verbs is that they have the same argument structure as the output of the application of the stative rule. Indeed our intuitive knowledge of the language coupled with the principles of lexical relatedness leads us strongly to believe that:

28.a omwarya "spread out to dry" (e.g.: flour)

is the matrix verb form which has served as an input to the generation of the lexical items:

28.b omwaryeya "get spread"
omwaryeya "get spilt"

where the latter has undergone a process of skewing and acquired a "lexical status" in its own right. This has led to its *"migrating"*, so to speak, from layer2 into layer1. Its idiosyncratic occurrence in layer1 is further substantiated by the fact that it selects the morpheme -ISa as its only alternating derivational morpheme:

29. omwaryeya/omwarisa "get spilt"/"spill".

The lexical item **omwaryeya** "get spread" that is the output of the application of the lexical rule "Stative" on the lexical item **omwarya** "spread" is thus different from omwaryeya "get spilt". As for the lexical item **ophweya** "get broken", we hold the view that it is a genuine idiosyncratic "Stative" lexical item. Having admitted this however, the fact that idiosyncratic transitive verbs ending in -EYa may have their idiosyncratic causative in -ISa, e.g.:

30. oraphyeya orapisa "vomit"/"cause to vomit"

reinforces the dubiousness of the Stative canonical meaning of the morpheme -EYa in layer1, on the one hand, and strengthens the claim according to which idiosyncratic morphemes are inconsistent in their semantic content, on the other. Whatever the meaning and the transitivity property that are associated with

it in the lexical items ending with -EYa, if these lexical items are taken as inputs to further idiosyncratic derivations, i.e., occurring with morphemes in layer$_1$, the only morpheme that they select as an alternating sister is -ISa.

The fact that -ISa is an idiosyncratic causative morpheme that occurs in layer$_1$, serving to transitivize intransitive verbs alternating with both -UWa and -EYa, strongly suggests that -ULa must have a different task in layer$_1$. Indeed the vetoing of the occurrence of -ULa with intransitive as well as transitive verbs as an accusative morphological index vindicates our view that these two morphemes perform different functions. On the basis of this we suggest terming -ULa an accusative extension morpheme (Guthrie's "active" (1962)) and -ISa an idiosyncratic causative morpheme. We also suggest that the canonical meaning "stative" be termed unaccusative (Guthrie's "neuter" (1962)) when morphologically indexed by the morpheme -UWa in layer$_1$. In tune with this point of view, the morpheme -EYa as a "stative" index in layer$_1$ must be regarded suspiciously for it fails to be associated with any particular meaning that can be dubbed as its reference.

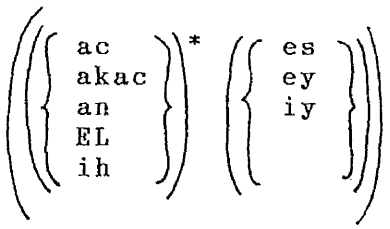
Before we confront these morphemes with those regular morphemes in layer L_2, a brief introduction designed to characterize the layer$_2$ itself, as structured in table 2.2, follows.

2.2.2.4 Combinability of extensions in layer$_2$

As earlier stated, regular processes of verb derivation are morphologically instantiated by the morphemes ordered in layer$_2$. Any such morpheme may occur independently. It appears that the same inherent

restrictions that govern the combination of one given extension morpheme with a particular matrix verb are at play in a multiple sequence of extensions. We have found from the data that a multiple or compound extension sequence is highly constrained. This evidence allows one to subdivide the morphemes in layer2 as shown in table 2.2, partially recapitulated below as 2.3:

Table 2.3 Sequence of radical-free extension morphemes within Layer2



Key: ( )= optional occurrence of single element
( )*= optional occurrence of one or more elements
{ }= any one of given elements
(x) (y)= (x) followed by (y).

This subdivision has been effected on the grounds of the following observations:

(i) In any multiple sequence of extension morphemes there is a positional hierarchy determined by the inherent feature compatibility of the lexical rules that are indexed by the morphemes concerned. The compatibility of inherent features determines which morphemes may follow or precede or co-occur with which other morphemes.

(ii) In accordance with (i), we have found that some morphemes can occur at least twice in the same lexical item, without being separated by another morpheme, while others can occur no more than once in such circumstances.

(iii). The morphemes occurring "only once" unless separated are -ESa "Intensive", -EYa "Stative" and -IYa "Passive". These morphemes also share the property of usually taking the last position whenever they occur in a multiple sequence.

If one takes as given the principle that no two morphemes may instantiate the same lexical rule in the same morphological layer or level, then the concept of "canonical meaning" intrinsic in the notion of blocking and skewing may seem unduly restrictive when applied to extension morphemes. The "canonical meaning" of an extension morpheme, as understood here, is an expression of the morpholexical operations of a lexical rule with one particular semantic interpretation being taken as the kernel. The problem is that some lexical rules are instantiated by more than one extension morpheme or express more than one meaning, as is the case of the Causative (4.2). On the other hand, one single lexical rule may adversely affect different verbs according to their arguments. Whether in such cases one is or not in the presence of the same rule is something that appears unclear in the conventions hitherto adopted. Indeed, morphemes such as those we have identified in Emakhuwa as -ELa and -IHa have come to be conventionally known as "**Applicative**" and "**Causative**" respectively, although they can be interpreted diversely according to the argument structure of the input verb.

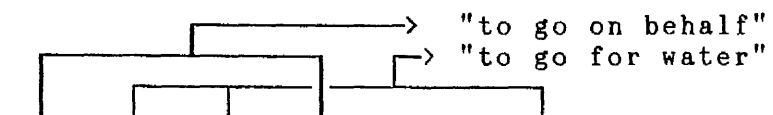
Whether these conventions are satisfactory or not is a matter we do not wish to dwell on here. What we have found interesting in Emakhuwa is that the concept of "canonical meaning" has become handy in helping us to establish two sets of extension morphemes in layer$_2$, namely, those which can be associated with one "canonical meaning" only, e.g.:

31.a -**ESa** "intensive" in **olimesa** "cultivate/hard"
-**EYa** "stative" in **olimeya** "get cultivated"
-**IYa** "passive" in **olimiya** "be cultivated"

and those morphemes which may have a variety of semantic interpretations:

31.b. -**ELa** applicative: benef/instr/directive/rational
-**IHa** causative: causative, adjutive, inductive
-**ANa** reciprocative: reciprocative, comitative.

We have also found that those extension morphemes indexing "***only one***" canonical meaning are coincident with those extension morphemes that cannot be followed by themselves within the same lexical item. Assuming that the occurrence of the same morpheme in the same lexical item signals its application on different arguments of the input verb, which are associable from the principle of compatibility of inherent features, (see: 32), then any collision would bring about either the skewing of the canonical meaning of one of the morphemes in the lexical item or the ill-formedness of the lexical item itself.



32. ki - h - **aa** - rw - el - el - a **maaci**.
sp tm om go $appl_{rat}$ $appl_{ben}$ tm water
I went and fetched water for him/(respect)/them.

However, while the compatibility of inherent features of the extension morphemes occurring in a lexical item is a condition for the well-formedness of the lexical item, it would appear that collision of inherent features within a lexical item cannot and, perhaps, should not be made responsible for the skewing embodied in the processes of lexicalization and/or

fossilization. Indeed from the fact that an extension can occur independently of the occurrence of another, it would appear that those morphemes which can express a variety of lexical rules may also express independently idiosyncratic processes of word derivation, as may be illustrated by (33.b) confronted with (33.a):

33.a		33.b	
othuma	"buy"	othumiha	"sell"
orupa	"sleep"	orupiha	"commit adultery with a woman"
ophava	"scatter"	ophavela	"look for"
ophweya	"break"	ophweela	"have enough of" /"saturate"
oruca	"urinate"	orucela	"ejaculate"

There are however other lexical items in which the extensions appear fossilized to the extent that it is not possible to trace the *ancestor* input verb[15]:

33.c		
	otakaniha	"join"
	otikana	"stick together"
	othukumana	"gather"
	omananiha	"try"
	weeciha	"commercialize"
	okhalana	"have"
	otharavela	"get the whole lot"
	orettheela	"sweat"
	ororomela	"have confidence in"
	okhuluvela	"have trust in"

These idiosyncratic processes which lead the morphemes to *migrate* into layer$_1$ option$_2$ (fossilized or lexicalized extensions, (see Table 2.2)), may not be explained by the facts obtaining from incompatibility of inherent features.

The incompatibility of inherent features provides a ready explanation for the blocking of further derivation. The difference between option$_1$ alternating radical-bound and option$_2$ lexicalized idiosyncratic morphemes in layer$_1$ is that the former have a limited *freedom* of movement. This movement consists of extension alternation, which allows for a reciprocal substitution but never co-occurrence of the idiosyncratic morphemes in the same lexical item. That is, no idiosyncratic extension morpheme of the type contained in layer$_1$, option$_1$, may occur with another of the same group in the same lexical item.

As for the co-occurrence of extensions of layer$_1$ and layer$_2$ we have found the following principles at work:

(a) Extensions indexing one "canonical meaning" may co-occur with all idiosyncratic morphemes in layer$_1$, option$_1$ with the following properties:

(i) Idiosyncratic morphemes such as **-UWa** and **-EYa** indexing lexical rules that include features intrinsic to the productive "stative" morpheme **-EYa** may not cooccur with the latter, e.g.:

34. -UWa/ -*EYa and -EYa/ -*EYa:

othomowa	*othomoweya	"get unhung"/*stative
wookowa	*wookoweya	"get straight"/*stative
waapuwa	*waapuweya	"get taken off the cooker" /*stative."
ophweya	*ophweyeya	"get broken"/*stative"

This suggests that the input to a stative rule must have the lexical feature transitive.

(ii) However, if the morpheme -EYa is expressing features not incompatible with those of -EYa "stative" it may be followed by the latter. (In this case there is a morphonological operation common in Emakhuwa which consists of a process of nasalization of the sequence of a certain type of vowels, see (2.2.1.3)):

35. -EYa/-EYa "stative"

othomeya "hang"
othomeyeya ——> othomen'ya "get hung"

waapeya "cook"
waapeyeya ——> waapen'ya "get cooked"

oraphyeya "vomit"
oraphyeyeya ——> oraphyen'ya "get vomited"

(iii) While the morpheme -IYa "passive" may not occur with the regular and productive "stative" morpheme -EYa, we have found it occurring with all idiosyncratic morphemes which have features that include those of stative, e.g.:

36. -UWa/-IYa and -EYa/-IYa:

wookowa "get straight"
wookowiya ---> wookwen'ya "be straightened"

ophweya "get broken"
ophweyiya ---> ophwen'ya "be broken"

waapuwa "get removed from the fire"
waapuwiya "be removed from the fire"

These examples are difficult to gloss but they show that the "passive" extension in Emakhuwa may co-occur with any verb, irrespective of its polyadicity (see (5.1)).

(b) Blocking often occurs in the co-occurrence of the idiosyncratic morphemes of layer$_1$, option$_1$, with the regular and productive extensions that include:

-ELa "applicative",
-IHa "causative", etc.

The main principle at work in this kind of sequence appears to be that of labour distribution in the operation on the argument structure of the lexical item in question. This principle may be formulated loosely as:

No intransitive lexical verb form that can be "transitivized" by means of an idiosyncratic morpheme in layer$_1$ may be entered as an input to regular processes of verb derivation the canonical meaning of which contains the feature "transitive":

37.a	waapuwa	*waapuwiha	"get removed from the fire/*caus
	but	waapuliha	"remove from the fire"/(caus)
	ophweya	*ophweyiha	(*ophweeha) "get broken/*caus
	but	opwesiha	"break"/causative
	wookowa	*wookowiha	(*wookweeha) "get straight"/"get very straight/*caus
	but	wookoliha	"straighten"/causative

Similarly the benefactive reading of -ELa presupposes an agent role in the matrix verb, and so is blocked for verbs lacking this role, unless introduced by another extension, e.g.: Causative. Other readings of -ELa are permitted, as in (38.b):

38.b waapuwa waapuwela "get removed off the fire"/loc
ophweya ophweela "get broken"/loc/rat
wookowa wookowela ——> wookweela "get straight" /loc/rat

This shows that the co-occurrence of idiosyncratic extension morphemes, i.e., the ones which we have termed "radical-bound" extensions, with the productive and regular morphemes in layer$_2$, i.e., the ones which we have termed "radical-free" extension morphemes, is governed by principles of optimization of meaning which include those of gapping and suppletion. These principles control the functional distribution of the morphemes in layer$_1$ and layer$_2$. The fact that the blocking and skewing processes that we have described guarantee the distribution of the morphemes in layers in line with the principle of optimization of meaning allows one to claim that there are degrees or levels of idiosyncrasy in the lexicon[16].

2.2.3 Extension morphemes - exponents of morpholexical operations on verbal lexical items

We have identified, in terms of Selkirk (1982), the syntactic properties of extension morphemes in Emakhuwa in the preceding sections. We have established that extension morphemes are lexical entities that subcategorize for verbs; their level within X-Bar theory of word formation is that of Affix (X^{af}) and their categorial status is verbal. We have posited as

well that the category level at which they are attached is word, (X-Bar level = $X^{\emptyset}$). We have discussed the phonological and morphological shape of the output lexical items, taking it to be a reflex of the interaction between the input verbs and the extension morphemes. In the last section, the meaning of extension morphemes has been discussed, insofar as their semantic properties are embroiled with the morphological processes of morphological layer ordering.

In this section, extension morphemes are analysed according to our main working hypothesis that regards them as morphological indexes of morpholexical rules operating on verbs and generating new verbs. This approach is meant to provide a systematization of extensions according to whether or not they affect the syntactic distribution of the lexical items in which they occur.

In discussing the nature and scope of morphological operations, Di Sciullo and Williams (1987:3:65) state that

"a morphological operation can affect syntactic distribution of the resulting word only in two ways: it can affect the features of the word, or, it can affect the argument structures of that word".

This position conforms with Selkirk's proposal for the characterization of the semantic properties of an affix, as earlier outlined (2.2.1.1).

Similarly, Guthrie (1962) recognizes the existence of two major groups of extension morphemes: those which affect the thematic structure of the verb to which they are suffixed; and those which do not change the predicate argument structures of the matrix verb. We have found this subdivision of morphemes operating in Emakhuwa as well.

Across the two layers we have described in (2.2.2.2) and (2.2.2.5) there is a set of morphemes, the underlying feature of which is to index lexical rules whose morpholexical operation results in altering the thematic structure of the matrix verb. Another set of morphemes has the underlying feature of what Selkirk would describe as "modal operators". That is, they describe the circumstantial features in which the state of affairs expressed by the verb is happening. We have categorized these two types as "thematic" and "modal" extensions. Emakhuwa thematic extension morphemes are set out in (39):

39. -ANa (reciprocative)
-ELa (applicative)
-EYa (stative/potentiative)
-IHa (causative)
-IYa (passive)

The thematic extension morphemes in Emakhuwa present a dichotomy in the way in which they interfere with the predicate argument structure of the matrix verbs. There is a subset of morphemes that index lexical rules whose feature is to increase the theta roles of the predicate argument structure of the verb by one. There is another set which deletes one of the arguments. This dichotomy corresponds to a natural set of lexical rules that have led us to split the investigation of the role of thematic extensions into two chapters. The subset of thematic morphemes which increases the argument structure of the input verb by one is discussed in chapter (4.0) and includes the following morphemes:

40. -ANa reciprocative
-ELa applicative
-IHa causative

On the other hand, the subset indexing lexical rules that drop an argument is discussed in chapter (5.0). This includes the following morphemes:

41. -EYa stative/potentiative
    -IYa passive

Modal extension morphemes (from Selkirk's "modal operators" (1982)), that is, those that do not affect the argument structure of the verb are identified in (42)[17] :

42. -ACa iterative/dual
    -AKACa iterative/frequentative
    -ESa intensive/frequentative

Although modal extension morphemes are expected to "*modulate*" any verb, it turns out that some matrix verbs hinder a given modal extension from co-occurring with it. Our intuitive knowledge of the language appears to indicate that this has to do with the inherent features of both the matrix verb and the morpheme itself. For instance those modal extensions which are sensitive to the temporal aspect in which the action is carried out appear not to occur with verbs that have that feature entrenched inherently. Verbs that are perceived as inherently punctual are likely to occur with -AKACa "continuous+iterative" to make them *continuous-like*:

43. ophweya "break"(punctual)
    ophweyakaca "break continuously"/ "break (punctual)(of many)
    oluma "bite"/punctual
    olumakaca "bite continuously/iteratively"

while the same morpheme is excluded for verbs perceived as inherently progressive or continuous verbs, e.g.:

44.	orupa	"be sleeping" (continuous)
	*orupakaca	"sleep continuously"
	wookoma	"be sitting" (continuous)
	*wookomakaca	"be sitting continuously"

Given the fact that these morphemes do not interfere with the syntactic distribution of the lexical items, as a result of their not affecting the predicate argument structure of the verb with which they occur, we go no further into their analysis, concerning ourselves exclusively in the forthcoming chapters with thematic extensions.

NOTES TO CHAPTER TWO

1. See Leher (1974:196-7) for a fuller characterization of the difference between Lexicalist and Transformational treatments of derived words.

2. One of Lapointe's Generalized Lexical Hypothesis (GLH) enunciations is:

"No syntactic rule can refer to a morphological feature or category." (Lapointe, (1980))

Selkirk has proposed an alternative formulation of this condition, which she terms:

The Word Structure Autonomy Condition:

"No deletion or movement transformation may involve categories of both W-structure and S-structure." (Selkirk, (1982)).

3. This assumption does not preclude that other assumptions on the input to word derivation, such as that of root, might be as arguably useful as that sustained here. Indeed, Mr. Mann, commenting on this position of mine, has this to say:

"There is an irony in the choice of the infinitive for lexical entry, since it is both noun and verb; how then does it give its category to the head? Incidently, what happens to defective or suppletive conjugations that have no quotable infinitive or only non-cognate suppletive infinitive? My assumption is that if the lexical entry were an abstract root, its lexical category would be verb-root, and nominal derivatives would derive their category from a category-changing suffix".

4. Mr. Mann, commenting on this, had this to say:

"I would assume that a theory that entered roots in the lexicon would have a mechanism for specifying irregular derivative categories, thus causative is R+iha unless blocked by a specific subentry:

RAPHEY+CAUS --> RAPISA".

5. See (4.2.1.1) for the formulation of the Causative construction in Emakhuwa.

6. Williams in Di Sciullo and Williams (1987) resumes the concept of head in Williams (1981) and adopts the relativity feature of head no longer attaching it to a fixed position.

7. As an aside, let us make a brief comment on this. Genetically speaking, taken to the extreme, Selkirk's claim appears to be a fertile land for theoretical debate. Since a sister cannot change the features of another sister and cause them to be reflected in the mother node, even in the event of an unlikely incest, this debate would eventually lead to a revolution which would lead to putting upside-down the parenthood concept that has been associated with nodes of Phrase Structure trees. In such an eventuality the current *parent* node would correctly be regarded as the *daughter*, while the *sisterhood* relationship of the other nodes would end and turn into a *husband* and *wife* relation. In this way it would not matter whether one is ***macho*** or ***feminist*** in the preferential attribution of headhood to either the *mother* or to the *father* node. For bias would be preventable by the fact that the prevailing ***genes*** in the *daughter* node, that are relatable to one of the parent nodes, would give that node the status of head. The binary-branching that characterizes the rules of word formation would render words essentially a ***monogamous*** society, if one wants to expand the figurative language of the generative theories.

8. In other Emakhuwa variants the Passive extension morpheme takes the form of -IWa instead of -IYa.

9. Di Sciullo and Williams (1987) discuss the question of "head of a word" and introduce alterations into William's earlier formulation of the concept (Williams, (1981)). Among the innovations they introduce is the *"relativized"* character that the concept of *"head of a word"* encapsulates. By admitting that the notion *"head"* has to do with certain features specifiable in a lexical item, they recognize that a lexical item may have an inflectional head for inflectional features and a predicative head for the thematic structure. Since in Emakhuwa the predicative head may be either the extension morpheme or its sister, according to the type of extension, one cannot see why Di-Sciullo and Williams define head of a word as *"contextually fixed"*, i.e., it is always the right hand element of a word structure. In Emakhuwa it is rather *functionally* than *"contextually"* fixed. That is, the position of a head is determined by the position of the element whose features are functionally relevant to the specification of the aspect being focused in the lexical item. That element may structurally be positioned on either side.

10. One takes Mchombo's position on morphological relatedness as implicitly including such cases as phonologically conditioned allomorphs, e.g.:

olima olimela "cultivate"/(Applicative)
okwasa okwasera "clean"/(Applicative)

where the morpheme -ELa could be the responsible element for the lexical relatedness of the two verbs through the allomorphs -ela and -era. Our attention has been drawn, however, to the fact that not all allomorphs are related by phonological conditioning. There

are extreme cases, such as suppletion, where one can arguably claim that GO and WEN(T) [or their Portuguese counterparts: IR and FOR] are allomorphs of a single morpheme. (Mann, W.M. (1989), p.c.)

11. This exercise has profited from Shepardson's (1986) application of the theory of lexical morphology and phonology, as developed by Kiparsky (Kiparsky (1983)), to the analysis of productivity of extension morphemes in Kiswahili.

12. Kiparsky's proposal is similar to that of Allen (Allen (1978)) and Siegel (Siegel (1974)), referred to by Selkirk in her categorial analysis of the features of Class I and Class II affixation in English. Selkirk makes reference to Siegel's proposal of precedence of application of rules, according to which "the rules attaching Class I affixes apply "*before*" rules attaching Class II affixes". On the basis of Siegel's idea, Allen develops the level ordering principle, according to which

"the rules of morphological component are organized into extrinsically ordered blocks or levels, the rules within each block being unordered with respect to each other".

(Selkirk (1982:92)).

Thus, the order of the application of rules in English would be: "Class I affixation, Class II affixation, inflectional affixation, and compounding". Selkirk (1982) has found this classification not totally satisfactory, for "it makes incorrect predictions" in the Grammar of English affixation.

13. Guthrie (1967-71) is very careful [in (CB)] to quote meaning for alternating extensions only in pairs, e.g.:

-UWa/-ULa

might be glossed neuter/active, (Mann (1990) p.c.).

14. See end of page 125

15. We have found in Emakhuwa the fossilized extensions existing in a number of Bantu languages such as:

*-AMa:	waathama	"have the mouth open"
	wooroma	"be inclined"
	okhoroma	"kneel"
	opatama	"lie down"
	orekama	"be long"
	othalama	"lie backdown/keep mouth open"
	etc.	
*-Va:	oneneva	"be fat"
	ottaliva	"be distant"
	waakuva	"be quick"

oyeva "be little"
etc.

but our intuitive knowledge of the language forbids us to treat these morphemes with the productive morphemes analysed here. Their degree of fossilization is such that they can no longer intuitively be considered as analysable elements.

16. Coupez eliminates the concept of "lexicalization" altogether in favour of that of "hapax", which he finds adequate for the characterization of those morphemes that, though morphologically identical with the regular morphemes, have only one meaning, occurring in one context and/or with one verbal lexical item only, (Coupez (1985)). Our view is that, whatever the name one may assign to these idiosyncratically built morphemes, the fact of the matter is that their identity is always referred to by analogy with the productive processes of verb derivation indexed by the regular morphemes. This only reinforces our view that extension morphemes form a structural network of meaning rationalization and as such they are morphologically ordered in layers, one of which is the realm of lexical idiosyncrasy.

17. Reversibility is clearly "modal", but the existence of -UWa/-ULa or -OWa/-OLa shows that there are some derivations that are at once "modal" and "thematic". We have not, however, discussed these morphemes in our research.

14. In other words, **otumiha** "sell" is no longer conceived of as a **causative** of **othuma** "buy", and so permits homophonous derived causative.

CHAPTER 3: THE GRAMMAR OF EMAKHUWA MATRIX VERBS

3.0 Introduction

The first two chapters have provided us with the relevant information on the morphological structure of the verb as well as the characterization of the derivational suffixes known as extension morphemes. This has met part of our twofold research aim: the part concerned with the description of the shape, meaning and role of extension morphemes in the derivational morphology of the Emakhuwa verb. We have found that some extension morphemes index morpholexical rules that affect the predicate argument structure of the matrix verb so that the syntactic distribution of the lexical items that may co-occur with the output verb is substantially different from that of the matrix verb. We have termed the morphemes that index such morpholexical rules thematic extension morphemes. These morphemes are the subject of our research in chapters (4-5), which seek to establish the role that these morphemes play in the grammar of the Emakhuwa extended verb.

Preceding this, it has been found useful, first, to determine the different patterns of polyadicity obtaining from non-extended matrix verbs. In so doing, we are able to establish a parallelism between the grammar of the extended verb and that of matrix verbs through the analysis of how theta roles introduced or retracted by morpholexical rules affect the distribution of the *syntactic atoms* (DiSciullo and Williams (1987)) in the corresponding syntactic string. We are also able to determine whether there are other morpholexical operations on the matrix verb that are not morphologically indexed by extension morphemes.

This chapter undertakes two main tasks to this end:

(a) Emakhuwa matrix verbs are categorised according to the different patterns of polyadicity (3.2) after first reviewing LFG theory of Polyadicity (Bresnan (1982)) in (3.1), which provides the conceptual means for the manipulation of the data.

In this exercise we have distinguished three constructions or, perhaps, lexical rules, two re-arranging the lexical mapping of arguments and the other introducing a non-subcategorized NP (without involving extensions). We have called the constructions that provide alternative assignments of grammatical functions to the same thematic structure "Oblique" inversion and indirect relativization, respectively, and the one which introduces a theta role Objective or "Accusative" construction.

(b) The main transitivity features of Emakhuwa matrix verbs are described against a background of relevant previous work on Bantu transitivity (3.3).

3.1 Verbal polyadicity in the theory of LFG

The LFG theory of Polyadicity is concerned with lexical forms, i.e., a predicate argument structure of a verb paired with the corresponding grammatical functions. In other words, it establishes the governing principles in the specification of the arguments of a given verb, and the ways in which these arguments are linked with grammatical functions. In Bresnan's own words (1982), polyadicity is:

"the number and kind of arguments" [that a predicate holds].

The predicate argument structure is defined as a list of theta roles that are, in Jackendoff's term, *visible* to the syntax (Jackendoff (1987))[1], or, in Bresnan's words, *available* to the assignment of grammatical functions. To be more precise we quote Bresnan:

"A predicate argument structure is an abstract characterization of those arguments of a semantic predicate that are open to grammatical interpretation. According to the theory of lexical forms the predicate argument structures of lexical items are represented independently of their syntactic contextual features **as functions of a fixed number of grammatically interpretable arguments**" (Bresnan (1982), my emphasis).

3.1.1 The underlying principles

The assumptions enshrined in the theory of verbal polyadicity have already been outlined in (1.5.2). We recapitulate briefly here, and examine the consequences of each assumption in the treatment of the data.

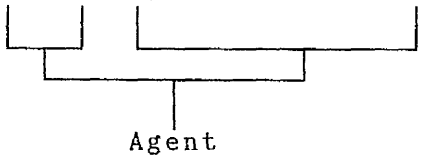
3.1.1.1 The function-argument biuniqueness condition

The theory of polyadicity specifies which grammatical functions are associated with which arguments of a given verb by availing itself of an array of conditions of well-formedness. One of these conditions is that of Function-argument biuniqueness, which forbids the assignment of two grammatical functions to the same theta role or the expression of one single role by two grammatical functions in the same verb (1.2.3.4).

Bresnan (1982) postulates that:

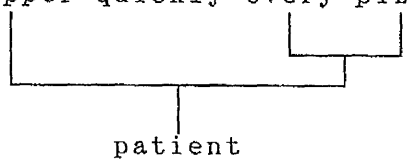
"Because every predicate argument must be assigned a *unique* [sic] grammatical function, the Biuniqueness condition rules out examples like [(1.a) = Bresnan's (48)], where the BY OBJS are interpreted as the agent in the predicate argument structure of *admire*":

1.a *She was admired by him by the President.



By the same token, (1.b), (Bresnan's ex.: (49)), where the NPs *supper* and *every pizza* "are interpreted as the patient in the predicate argument of *eat*" would be ruled out:

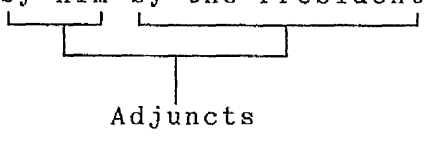
1.b *She ate *supper* quickly *every pizza*



The Function-argument biuniqueness condition provides, therefore, "a grammatical means of determining the polyadicity of predicate argument structures" (Bresnan, op. cit.)).

Bresnan goes further, using the biuniqueness condition to distinguish grammatical functions which are assigned to predicate arguments from adjuncts. She contrasts (1.a) with (1.c) (Bresnan's ex.: (50)), in which, by the biuniqueness condition, the two BY-Phrases cannot be perceived as the grammatical arguments of *sitting*:

1.c She was sitting by him by the President



Adjuncts such as *manner*, *temporal adjuncts*, *locative* and *instrumental adjuncts* are not part of the verb's predicate argument structure. To perceive them as such

would violate "either the biuniqueness condition on functional assignments or the finiteness of predicate argument structures" (Bresnan (1982)). Instead, adjuncts are "clausal operators", and as such, any number may occur in the same clause, subject only to the constraints of human nature.

However, although there is plentiful evidence of "finiteness of predicate argument structures" in the Emakhuwa patterns of verbal polyadicity, evidence from our data appears to militate against the distinction between subcategorizable grammatical functions and non-subcategorizable ones, (i.e., adjuncts or clausal operators), on the basis of assignment of grammatical functions or grammatical *interpretability*, see (5.1.1). Bresnan notes in the theory of "Control and Complementation", that "the subcategorizability of grammatical functions is a parameter that distinguishes "subject-oriented" from "topic-oriented" languages (Bresnan (1982)). The facts relating to the Passive (5.1) and, to some extent, to agreement in Emakhuwa (3.3.2) lead one to posit that Emakhuwa may, perhaps, be grouped with "topic-oriented" languages.

3.1.1.2 The Subject condition

Another underlying feature of the theory of polyadicity is the Subject condition (1.5.3.3.1) which states that verbal lexical forms must always have the grammatical function SUBJ(ect). The concept of polyadicity implies therefore that one of the theta roles of every given verb must be associated with the grammatical function SUBJ(ect). In monadic verbs, i.e., those with one single theta role in their predicate argument structure, it is assumed that that role must be

assigned to the grammatical function SUBJ(ect). Once again, the facts relating to the Passive in Emakhuwa monadic verbs suggest that the subject condition must not be perceived as being solely linked to thematic subcategorizability. For in cases where no argument is left by the rule of Passive and Stative in unergative and unaccusative verbs, the subject condition is salvaged by the introduction of a non-subcategorized NP ((5.1) and (5.2)).

3.1.1.3 Transitivity and objecthood

Although Bresnan does not spell it out, one of the key assumptions in the theory of polyadicity is the grammatical function OBJ(ect). Grimshaw (1982) suggests that in the theory of lexical forms the grammatical function OBJ(ect) is the "function of functions", in the sense that not only is it referred to in the distinctions between transitive and intransitive lexical forms, but it also plays a crucial role in the explanation of certain, if not most, lexical rules. On this assumption she postulates her *transitivity hypothesis*, taking the grammatical function OBJ(ect) as the central feature of the concept of transitivity. As such, she posits that the transitivity of a verb may be defined logically, functionally and configurationally, that is, at all three levels of grammatical information:

(a) at the level of a-structure, a verb is "logically transitive if it is (at least) dyadic and if its second argument is of a particular semantic type including NPs like *John*, *a man* [...] and excluding adjectives";

(b) at the level of f-structure, "a verb is grammatically transitive if, and only if, the grammatical function OBJ(ect) is assigned to one of its theta roles".

(c) At the level of c-structure, "a verb is structurally transitive if it occurs in the context of

—— NP"

Grimshaw's definition of transitivity in the above terms appears to be more in tune with our data than that of Bresnan. Indeed, as we illustrate with the "accusative construction" (3.2.2), with the Applicative in monadic verbs (4.1.2), and/or with the Causative construction (4.2.2), the data corroborates Grimshaw's claim that:

"some syntactic facts are best explained by referring to grammatical functions rather than directly to argument structures of the verbs."

3.1.1.4 Variable polyadicity and the role of lexical rules

Perhaps, due to the pivotal role of the grammatical function OBJ(ect) in the definition of polyadicity, Bresnan (1982) defines variable polyadicity in the context of "English *action verbs*" as:

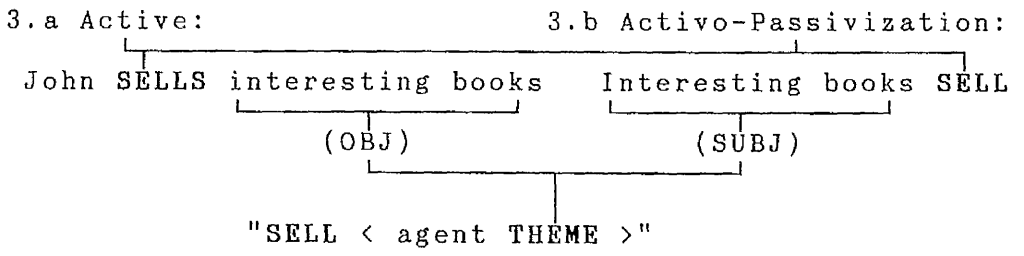
"the capacity of these verbs to occur with variable numbers of grammatical arguments or functions".

This variability is said to derive from lexical rules, which, according to the way in which they manipulate the verb, may be divided into two groups:

(a) lexical rules which "simply produce alternative assignment of grammatical functions to the same predicate argument structure", e.g.: the lexical rule of *to-Dative* alternation in English:

2. John gave the ring to Mary ≈ John gave Mary the ring

(b) lexical rules which "alter predicate argument structures [of the verb] either by the addition or elimination of predicate arguments". These are illustrated by such lexical rules as the Causative, Passivization, *Activo-Passivization* or middle (Bresnan (1982)), etc:



Summarizing: By the function-argument condition of well-formedness, the theory of polyadicity asserts that only theta roles of the predicate argument structure are sensitive to lexical rules. It also distinguishes between adjuncts and grammatical functions that are mapped onto inherent theta roles. By taking the grammatical function OBJ(ect) as the referent to transitivity, the theory allows for the classification of verbs according to the number and kind of arguments that they have. The theory of polyadicity also assumes the subject well-formedness condition, which states that every verb must have a Subject.

3.2 Emakhuwa matrix verbs and polyadicity

Having introduced the theoretical tools for the polyadic categorisation of Emakhuwa matrix verbs, we start analysing our data bearing in mind two aspects of the theory of polyadicity, namely, the role of the grammatical function OBJ(ect) in the polyadic categorisation of Emakhuwa matrix verbs; and secondly,

the question of whether, as in English, there is variable polyadicity in the Emakhuwa grammar that is not morphologically indexed by an extension, whether as a result of lexical rules that "simply produce alternative assignment to the same predicate argument structure" or otherwise.

3.2.1 Objecthood and polyadicity

As stated earlier, variability of argument structures obtaining from the application of lexical rules indexed by extension morphemes will be the object of study in the following chapters. Our aim in this section is to describe the polyadicity of verbs which have undergone no morpholexical rule that affects their predicate argument structure. In this respect, our data has revealed the following:

(a) the maximum number of predicate arguments that the Emakhuwa matrix verb may hold and that are syntactically realizable is three theta roles. Of these, one theta role satisfies the *subject well-formedness condition* (1.2.3.4), and the remaining theta roles, if any, determine the polyadicity or valency of the verb as monadic, dyadic or triadic.

(b) The three patterns of polyadicity of Emakhuwa matrix verbs are, however, overshadowed by transitivity puzzles, that at the level of grammatical functions make some monadic verbs behave syntactically as though they were thematically dyadic, and some dyadic verbs as if they were monadic in some cases, or triadic in others. These puzzles often appear to be related to the grammatical function OBJ(ect).

For instance, if expressing the constraints in (a) we posit, for the moment, that in unmarked order the Emakhuwa syntactic string may, in a simplified manner, be represented by the context-free rewrite rule as in (4):

4. S --> NP VP
(↑SUBJ)=↓

then one may rewrite the VP structure as in (5):

5. VP --> V ((NP) (NP)) (PP)

where (...) implies the selection of one, both or none of the enclosed NPs, according to the predicate's argument structure and/or subcategorization frame.

The VP in (5) may be instantiated by the following examples in (6.a):

6.a "WEETTA < ag >"
|
"WEETTA ((SUBJ), (OBL))" "walk" [T7]

wenleliya o - **he** - **ett** - **e** **ni ohiyu**
if it's night sp ng walk tm cp 17-night
if the sun sets in the course of your journey do not walk/travel through the night".

Where given the thematic structure of **weetta** "walk" or "travel", the polyadicity is such that none of the NPs under the node VP in (5) is selected. Instead a PP **ni ohiyu** "through the night" is called upon to *modify* or modulate the clause. Hence in (6.a), and in all subsequent examples which have a non-subcategorized NP, this will be included in the verbal lexical form but without a heading theta role.

However, one becomes bewildered as to what grammatical relations hold between weetta "walk" and oluva "prostitution" in a clause such as:

7.a **Mwaatthu khwoo! ni - he - ett - e oluva** [T1]
Eh! please sp ng walk tm 14.prostitution
Please, let us not practice prostitution

where oluva is unmarked morphologically, just as the OBJ(ect) NP ekuluwe "pork" in (7.b):

7.b "okhuura < ag th > eat"
| |
((SUBJ) (OBJ))

7.b **Mwaatthu khwoo! ni - hi - khuur - e ekuluwe** [*]
Eh! please sp ng eat tm 7.pork
Please, let us not eat pork

If one takes this as evidence of independence between semantic arguments and grammatical functions, manifested by the fact that certain semantic properties of a verb may be expressed grammatically as though they were part of its argument structure, then one may also admit that there must be two different types of polyadicity or transitivity, one that derives from the predicate argument structure, which is visible to grammar, and one which is idiosyncratic. We develop this distinction more fully in (3.2.2). The distinction between these two types of polyadicity is made by referring to the grammatical function OBJ(ect) as suggested by Grimshaw (3.1.1.4). We use this parameter in the definition of the different patterns of polyadicity of Emakhuwa matrix verbs, as well as the parameter of argument structure.

3.2.1.1 The monadic verb

In this subsection a monadic verb is understood as either one whose predicate argument structure has one single theta role, or one whose lexical form does not contain the grammatical function OBJ(ect). A definition as broad as this does not preclude that oblique grammatical relations be expressed in a way similar to the grammatical function OBJ(ect). On the other hand, by the Subject condition of well-formedness, this definition implies that the most important aspect in the theory of lexical forms concerning the monadic verb are those related to the status of the grammatical function SUBJ(ect).

Conceptually, Emakhuwa monadic verbs may be classified in several different groups:

(i) verbs of location and motion, e.g.:

8.a

wookoma	"sit"
wunkoma	"sit"
wimpitha	"hide"
opatama	"lie down"
orwa	"go"
owa	"come"
ohala	"remain"
ohokoleya	"return"
ohoola	"advance"
okela	"enter"
okhuma	"get out"
okhala	"live"
okhuruwa	"descend"
ophiya	"arrive"
othama	"leave"
ovira	"pass"
okhoola	"depart"
weemela	"stand up"
wetta	"walk"
orukunuwa	"turn"
omaala	"be quiet"
omumula	"rest/breathe"
wun'wa/ovuwa	"get up/raise"
okhonya	"twist the waist"
osama	"be pretentious"
ohapuwa	"deviate/give way"
ohicila	"nod asleep"

(ii) Verbs describing physical or mental states:

8.b	ohaawa	"be anxious"
	ohuva	"suffer"
	oviruwa	"get angry"
	ottharuwa	"repent"
	ocukula	"be sad"
	olocwaa	"be naive"
	ovahuwa	"be mad"
	okhwa	"die"
	ocikuwa	"be defective"
	waatapuwa	"be large"
	okhomaala	"be strong"
	wuuluvala	"get old/age"
	oneneva	"get fat"
	orettheela	"sweat"
	olala	"get short"
	ovya	"get burnt"
	omela	"germinate"
	ocara/ocala	"get full"
	winciva	"be many"
	oyeva	"be small"
	onaana	"get wet"
	oseerya	"be light skinned"
	othapuruwa	"flourish"
	ottaliva	"be far"
	ottipheya	"fade away"
	wunnuwa	"grow up"

(iii) Attributive verbs[2]:

8.c	oririya	"be cold"
	oviha	"be hot"
	ovola	"be cool"
	onaa	"be sweet"
	ociva	"be delicious"
	onyuunya	"be sour"
	owaawa	"be piquant"
	oneena	"be itchy"
	onyoonya	"be boring"
	owereya	"be painful"
	oreera	"be beautiful"
	ofayi	"be pleasant"

(iv) Climate related monadic verbs:

8.d	winla	"dusk"
	oripela	"darken"
	osa	"dawn"
	overunya	"flicker/lighten"
	orupa	"rain"

These conceptual distinctions may be reduced to two main groups insofar as the theory of lexical forms is concerned, namely, those monadic verbs whose SUBJ(ect) is mapped onto the theta role agent, and those verbs whose SUBJ(ect) is linked with theta roles other than agent.

The first group of verbs is known as *unergative* verbs (Bresnan and Zaenen (1990)). Illustrated by the sample verbs in (8.a), unergative verbs are polyadically monadic verbs whose highest theta role has the features of an *agent*, the lexical mapping of which must be with an $NP_{[+animate]}$. As most of these verbs are *action* verbs of *motion*, they often have a second semantic argument indicating the location *from*, *through*, or *to*, which gives them a conceptual predicate structure with two inherent theta roles. When the semantic role is functionally expressed, it is often associated with the oblique grammatical function of LOC(ative):

9.a. "OKHALA" < ag loc >
| |
"OKHALA ((SUBJ), (OBL))" "live"

Vaa amaama miin a - n - khal - a aliteya Josina
16dm 2.mother pro sp tm live tm 1c.village pN
Now, my mother lives at Josina

Machel oTinepa [T2]
pN 17.pN
Machel village in Otinepa

9.b "OROWA" < ag loc >
"OROWA ((SUBJ), (OBL)))" "go" [T2]

Vano neera paahi va n - row - e wa - amaama
16dm she says then 16dm sp go tm 17+2 mother
Then she said: now let us go to mother's (home)

9.c "OHAPUWA" < ag >
"OHAPUWA ((SUBJ))" "deviate"
[T7]
"WIMPITHA" < ag >
"WIMPITHA ((SUBJ))" "hide"

khweeli k - aho - hapuw - a aayo,
True sp tm deviate tm yes
True, I had moved aside, yes

k - ah - empith - a co
sp tm hide tm dm
and hidden myself this way.

The second group of monadic verbs, conceptually miscellaneous and represented by (8.b-d), are generally known as *unaccusative* verbs (Bresnan (1990)). However, the verbs in (8.b) typically have an [+anim] SUBJ(ect) NP expressing Experiencer theta roles as illustrated in (10.a):

10.a "OHUVA" < th >
"OHUVA ((SUBJ))" "suffer" [T10]

mtthu khampwahiya mwamavi
never pass a person as if by dung

hata A - HUV - AKA
even sp suffer tm
even if he is suffering

naaceeriya omkoha ehaali.
he deserves to be asked how he feels

(Don't pass by a person as if by dung, even if he is suffering he deserves your greeting)

while the verbs in (8.c) typically have an [-anim] SUBJ(ect) NP expressing theme:

10.b "OLALA" < th >
|
"OLALA (SUBJ)" "get short" [Ts]

Masi soone ola ti - nokoo - lal - a ola
But 1.tobacco dm cp tm shorten tm dm
But the cigarette is going to get finished

And the verbs in (8.d) have lexically restricted or idiosyncratic SUBJ(ect) NPs:

11. "ORUPA" < th >
|
"ORUPA ((SUBJ)=RAIN (OBL))" "rain" [*]

Epula e - no - rup - a eyiita kahi elimwe.
7.rain 7sp tm rain tm 7.winter ng 7.summer
It rains in Winter not in Summer.

The data we have presented so far on monadic verbs has shown the following:

(i) Monadic verbs split into two main types, (a) those which have two *inherent theta roles* (C-Duncan (1985)) as in (9.a-b), and (b) those which have only one theta role. The former belong mainly to the group of unergative verbs.

(ii) By the Subject Condition we have found that, although conceptually monadic verbs in Emakhuwa may have a plethora of theta roles that may be linked with the subject function, they subdivide into two main groups:

(a) the unergative verbs which include the agentlike theta roles (actor/agent). They are assumed to be represented by the theta role *agent*.

(b) the unaccusative verbs, which include the patientlike theta roles patient/theme/goal and experiencer), and the source-like roles (source, cause, instrument, and/or motive). They are all represented by the theta role *theme*.

3.2.1.2 The dyadic verb

From the theory of lexical forms or Polyadicity, dyadic verbs are regarded as those verbs whose lexical forms have two grammatical functions, one of which is the OBJ(ect). The categorisation of dyadic verbs takes into account therefore, not only the type of thematic role onto which the grammatical function SUBJ(ect) is mapped, but also the type of relationship between this and the grammatical function OBJ(ect). This relational aspect is reflected in the general term by which these verbs are known: ergative verbs. We may however subdivide ergative verbs according to the way in which the highest theta role is involved in the conceptual meaning of the verb, either as *agentive* verbs, those whose highest theta role is perceived as agent, or verbs of *experience*, those whose highest theta role is perceived as *experiencer* or *goal*. Conceptually the former group of verbs may be subdivided into:

(i) Verbs of action:

12.

waaka	"cut open"
waala	"sow"
waapeya	"cook"
waatala	"spread"
ohawala	"have sex with" (male verb)
ohiya	"leave"
oweha	"look"
ohimya	"say"
ohita	"decapitate"
win'ya	"steal"
wiiva	"kill"
olya	"eat"

onya "defecate"
oruca "urinate"
ovona "have enough"
okhuura "gnaw/eat"
omirya "swallow"
olawiha "try/taste"
etc.

These verbs are illustrated in (12.a-d):

12.a "WAALA" < ag th >
"WAALA ((SUBJ) (OBJ) (NCOMP))" "plant"

aakhumale mlopwana khw - al - aka ikole [T5]
there came 1.man cp plant tm 8.coconut trees
There was a man who planted his coconut trees

cawe esaawa ene
pos. 7.farm adj.
[to make] a large farm.
(i.e., he planted a large farm of coconut trees).

12.b "WAAPEYA" < ag th >
"WAAPEYA ((SUBJ), (OBJ))" "cook"

nyeenyu, nyeeynu, khusale, mphwanyeriye
pro. pro. isn't it day? won't you be found
Hey you, hey you, is it not day yet?, won't you be caught

mw - i - na - k - apey - a [T8]
sp ng tm 1.om cook tm
not having cooked me yet?

12.c "OHAWALA" < ag th >
"OHAWALA ((SUBJ) (OBJ))" "have sex with" [T1]

wiiriya va min'yaano wu - u - hawal - a - ni
It was said 16.dm pro 15 om have sex tm om
He said: now [I feel like] having sex with you.

12.d "OHITA" < ag th >
"OHITA ((SUBJ) (OBJ))" "behead" [T8]

mwinkuse ola nhala mu - n - hit - a Nantto ola ola
Take him dm AUX. sp om behead tm pN dm dm
Take and behead him, this Nantto

Amongst the ergative verbs of action, some verbs appear to involve the SUBJ(ect) in the conceptual meaning of the verb such that it is perceived as though the theta role onto which it is mapped is somehow affected by the state of affairs described by the verb:

12.e "OLYA" < ag th >
"OLYA ((SUBJ) (OBJ) (NCOMP))" "eat" [T2]

enohimiya kha - a - no - ly - a yoolya yookhuma
It is said ng sp tm eat tm 7.food gp+15.come
They say she does not eat food coming from

mmwaani
18.country
this region

a - n - ly - a yoolya yookhuma waamayi aya
sp tm eat tm 7.food gp+15.come 17+2.mother pos.
she (only) eats food that comes from her mother's.

12.f "OMIRYA" < ag th >
"OMIRYA ((SUBJ) (OBJ))" "swallow" [T8]

vano ahokhoola o - ko - waa - miry - a asilopwana
16dm he left 15 tm 2.om devour tm 2.lads

ale
2.dm
Then he set about to go and devour those lads.

12.g "OWEHA" < ag th >

"OWEHA ((SUBJ) (OBJ))" "look" [T2]

k - a - m - weh - a khwiiraka khu! nkayi maaci.
sp tm 1.om look tm I said oh! it is water!
When I looked at it [petrol] I said oh! this is water!

(ii) Verbs of perception or psychic verbs

13.

woona	"see"
wiiwa	"hear"
ocuwela	"know"
wiitthuca	"learn"
owerya	"master"
wuupuwela	"remember/think"
oliyala	"forget"
oloha	"dream
etc.	

These verbs are illustrated in (13.a-c):

13.a "WOONA" < ag th >

"WOONA ((SUBJ) (OBJ) (VCOMP))" "see" [T10]

w - a - mo - on - aka mtthu uyo omaala wiireke
sp tm om see tm 1.person dm 15 silent say
If you see a person silent conclude

khatthunne
he does not like it
that he does not like it.

13.b "OCUWELA" < ag th >

"OCUWELA ((SUBJ) (OBJ))" "know" [T7]

walah! mtthu ene owo a - ki - no - m - cuwel - a
No 1.person adj dm ng sp tm om know tm
No, this person, I do not know him at all

13.c "OLIYALA" < ag th >
| |
"OLIYALA ((SUBJ) (OBJ))" "forget"

"WUUPUWELA" < ag th >
| |
"WUUPUWELA ((SUBJ) (OBJ))" "remember"

nriya	mo	- o - ki - liyal -	a	va
Is it true	sp	tm 1.om forget	tm	16.dm
You say	you have forgotten me			now

kha	**- n -**	**no -**	**ku -**	**upuwel -**	**a**	**tho**	[T7]
ng	sp	tm	om	remember	tm	again	

you do not think of me any more.

The distinction of these verbs from the verbs in (11) is more easily observable from the application of certain lexical rules, such as the Applicative rule with the reading of beneficiary grammatical function as may be seen in (4.1.2.2).

The group of ergative verbs whose conceptual structure is such that the highest theta role is perceived as being that of experiencer or goal is represented in our data by one single group member:

14. "WAAKHELA < rec th >" "receive"
| |
"WAAKHELA ((SUBJ) (OBJ))" "receive" [*]

Mariaamu	**ha -**	**akhel -**	**a**	**ewarakha**	**ya**	**amayi awe**
pN		tm receive	tm	7.letter	cp	2.mother poss

Mariaamu has received a letter from her mother

Categorizing dyadic verbs on the basis of the different instantiations of the grammatical function OBJ(ect) one may have two major groups: inherent and/or cognate object verbs and non-inherent object verbs.

Inherent or cognate OBJ(ect) verbs subcategorize for an object NP which is perceived as semantically related to

their meaning although not necessarily the semantic argument. They have an "open argument" (Bresnan (1982)) in their predicate argument structure. That is, the theta role linked to the grammatical function OBJ(ect) may be missed out without recourse to anaphora and yet be well formed. Sometimes these verbs are known either as "unspecified object" verbs (Grimshaw (1982)) or as object-drop.

15. onya "defecate"
olya "eat"
owurya "drink"
oruca "urinate"
wiipa "sing"
oloha "dream"

15.a "ONYA < ag th >" [T6]
| |
"ONYA ((SUBJ) ø (VPCOMP))" "excrete"

onya ki - n - ny - a ki -i - thip - el- ale
15.defecate sp tm defecate tm sp ng dig apl tm
As for defecating I defecate without bothering to ditch [it] down.

15.b "OLYA < ag th >"
| |
"OLYA ((SUBJ) ø (OBL$_{loc}$))" "eat" [T7]

khaancuwela ampewe ala wiira khuh
he does not know 2.chief dm that oh!
The chief does not know that "oh

mhima aka ola n - ly - a va
1.brother pos dm tm eat tm 16.dm
my brother is eating here".

15.c "WIIPA" < ag th >
| |
"WIIPA ((SUBJ) ø (VCOMP$_{loc}$))" "sing" [T2]

mthupi kha - ne - ep - a vari apaapa awe
3.cock ng tm sing tm 16.be 2.father pos.
a cock does not sing where his father is

Non-inherent object verbs are verbs whose predicate argument structure is such that, except in anaphoric constructions, the grammatical function OBJ(ect) must be lexically expressed. According to whether they subcategorize for OBJ(ect) NPs, VPs and/or both, this category of verbs may also be subdivided into two subcategories: NP OBJ(ect) verbs and XCOMP OBJ(ect) verbs. Although we present a sample list of each of these subcategories below, given that this is a contextual realization of the grammatical function OBJ(ect), we give more relevance to the categorisation of verbs according to the omissibility or not of the OBJ(ect) function:

16. Verbs whose OBJ(ect) is expressed as NP:

ohawala	"have sex with (male verb)"
ohawula	"take a handful"
ohela	"put in"
ohimya	"say"/"report"
ohita	"decapitate"
ohoma	"spear"/"punch"
ohula	"open"
oteesa	"lift"
othuma	"buy"
waaka	"dig a hole"
waala	"plant/sow"
waapeya	"cook"
wiiva	"kill"
win'ya	"steal"

These verbs are illustrated in (16.a)

16.a "WAAPEYA" < ag th >
"WAAPEYA ((SUBJ) (OBJ))" "cook" [T8]

...y - aa - pey - a ole nrama ole ole
sp tm cook tm dm 3.rice dm dm
when she had cooked the rice

aheesa vale nuuni nimoca
she put 16.dm 5.wood nm.one
she put over there one piece of firewood

17. Verbs whose OBJ(ect) is expressed as a SCOMP:

olica	"start"
omala	"finish"
opaca	"start"
otteha	"try"
wanca	"begin"

These verbs may be illustrated in (17.a):

17.a "WANCA" < ag th >
"WANCA ((SUBJ) (SCOMP))" "start" [*]

Juma h - anc - a ovara mteko
pN tm start tm 15.do 3.work
Juma has started to do the work

Non-inherent object verbs may also have their object dropped in general statements referring to a permanent state of affairs as in (18):

18. "WOONA" < ag th >
"WOONA ((SUBJ) ø)" "see" [*]

Amwaara annaNantto kha - a - no - on - a
2.wife gp+pN ng sp tm see tm
The wife of Mr. Nantto does not see, (i.e. she is blind)

As with monadic verbs, there are dyadic verbs which have an inherent LOC(ative) theta role, some of which require that this role be expressed (19.a), while others do not (19.b):

19.a weesa "put in/on"
ohela "put in/introduce"

"WEESA < ag th loc >
"WEESA ((SUBJ) (OBJ) (LOC))" "put" [*]

Mariaamu he - es - a ekarikho venkho
pN tm put tm 7.pot 16.cooking fire-place
Mariaamu has put the pot on the fire (she's started cooking)

19.b wiittha "empty"
orika "draw water"

"ORIKA" < ag th (loc) >
| | |
"ORIKA ((SUBJ) (OBJ) ø)" "draw water"

Mariaamu ho - rik - a maasi [*]
pN tm draw tm 6.water
Mariaamu has drawn water

3.2.1.3 The triadic verb

Our survey has shown that this type of verb is very limited in Emakhuwa matrix verbs. The reasons for this apparent lack of triadic verbs appear to stem from a suppletional type of relation with the role of some extension morphemes. We hope to explore this possible connection in subsequent sections. At this juncture we provide a list of the triadic verbs we have been able to record. As with dyadic verbs, some triadic verbs have their *primary* OBJ(ect) expressed as NPs and others as SCOMP and/or NPs. By *primary* object we mean the grammatical function that is mapped onto the theta role theme/patient.

20. Triadic verbs whose primary OBJ(ect) is expressed as NP:

othuwa	"withhold"
ovaha	"give"
waacimya	"borrow"
waakha	"snatch"

20.a "WAAKHA" < ag so th >
"WAAKHA ((SUBJ) (OBJ_2) ø)" "snatch" [T8]

mtthu ene mw - akh - ale
1.person adj. 1.om snatch tm
The person who snatched [it from] him

kha - n - no - m - cuwel- a
ng sp tm 1.om know tm
we don't know.

20.b "OVAHA" < ag rcp th >
"OVAHA ((SUBJ) (OBJ_2) (OBJ))" "give" [T7]

eneeriya paahi o - ki - vah - e esinku
it was said cp sp om give tm 7.penny
He said: now then give me a penny

20.c "OTHUWA" < ag rcp th >
"OTHUWA ((SUBJ) (OBJ2) (OBJ))" "withold" [T8]

... **so muru owo mw - i - ki - thuw - e**
but 3.head dm sp ng om withold tm
but as for the head do not make me miss it
(i.e., keep some of it for me)

21. Triadic verbs whose primary OBJ(ect) is expressed either as SCOMP or NP:

waakhula "reply"
ocipwa "answer"
okoha "ask"
olepela "beg"/"ask"

21.a "OLEPELA" < ag rcp th >
"OLEPELA ((SUBJ) (OBJ2) (OBJ))" "ask" [T7]

vano a - ho - ki - lepel - a esinku ele
then sp tm om ask tm 7.penny dm
then she asked me for the penny

ki - ha - a - vah - a
sp tm om give tm
and I gave it to her

21.b "OKOHA" < ag rcp th >
"OKOHA ((SUBJ) (OBJ$_2$) (SCOMP))" "ask" [T$_7$]

k - aana - muu - koh - a - ni ciwaale enyu
sp tm om ask tm pro how you
I would like to ask you how you came

mphwanyaka mhakhu ola
have acquired 3.wealth dm
to acquire this wealth.

In terms of selectional restrictions imposed by triadic verbs, it is worthwhile observing that while the *primary* object may be an NP$_{[+/-anim]}$, i.e., a noun phrase with the features animate or inanimate, the *secondary* object is always an NP$_{[cl.1/2]}$, i.e., a noun phrase in gender 1/2 with the features animate or human. This corresponds to the hierarchy of the theta roles onto which each of these functions are mapped: goal or recipient for the *secondary* object and theme or patient for the *primary* object.

We have hitherto italicized the terms *primary* and *secondary* object for want of a better terminology. As may be observed when we discuss the grammatical agreement facts in (3.3.2), the so-called secondary object turns out to be, in terms of transitivity, the one which takes morphological relevance over the primary object. Hierarchically, the theta role that is associated with the so-called primary object, i.e., Theme, is lower than that of the secondary object, which has features similar to the theta role Beneficiary that is introduced by the Applicative lexical rule indexed by the extension morpheme from which it takes its name.

3.2.2 From thematic structure to grammatical structure: two types of transitivity

One of the manifestations of independence between the thematic structure and the grammatical structure of a verb has been pinpointed in the previous section as being the fact that not all semantic features of a verb can be grammatically interpretable. It is also true that semantic interpretations of theta roles of verbs with the same pattern of polyadicity may not be mirrored in the grammatical structure. For instance the triadic verbs **waakha** "take by force" and **ovaha** "give" are different in the semantic interpretation of at least one of their theta roles:

22.a **waakha** < ag **SO** th >
((SUBJ) (OBJ_2) (OBJ))

22.b **ovaha** < ag **REC** th >
((SUBJ) (OBJ_2) (OBJ))

where the secondary object corresponds to theta role SO(urce) in the verb **waakha** and to theta role REC(ipient) in the verb **ovaha**. That is, the theta roles *source*, *goal* and/or recipient as defined by Jackendoff (1987) are grammatically non-distinct. This suggests to me that either these roles form one single abstract theta role which is grammatically *visible* or the grammatical functions are more limited in the scope of semantic differentiation than theta roles.

It may also be observed that even those features of a verb that are grammatically interpretable may not be lexically instantiated according to whether the syntactic context allows, e.g.:

23. "OVAHA" < ag rec th >
"OVAHA ((SUBJ) ø ø)" "give" [T7]

Hokumiha esinku ele ho - vah - a
He took 7.penny dm tm give tm
He took the penny and gave [it to her]

On Grimshaw's definition of transitivity the verb ovaha "give" above is grammatically intransitive and thematically transitive. In Bresnan's terms this is a case of an "optional suppression of a grammatical argument in a lexical form" which could, perhaps, be considered as part of the kind of lexical rules which are responsible for variable polyadicity, that "simply produce alternative assignments of grammatical functions". Surely this is a case of anaphora, with interesting grammatical features that include lack of object marker and lack of lexical instantiation of both theme and recipient.

On the other hand, if we recapitulate the verb weetta "walk" and weetta oluva "prostitute" of examples (6) and (7) as (24.a-b):

24.a "WEETTA < ag >"
"WEETTA ((SUBJ) (OBL))" "walk"

wenleliya **o - he - ett - e ni ohiyu** [T7]
if it's night sp ng walk tm cp 17-night
if the sun sets in the course of your journey do not walk/travel through the night".

24.b **Mwaatthu khwoo! ni - he - ett - e oluva** [T1]
Eh! please sp ng walk tm 14.prostitution
Please, let us not practice prostitution amongst ourselves

we notice that in Grimshaw's view the verb weetta is both thematically and grammatically intransitive in (24.a). But, given the change of meaning in (24.b), one

cannot claim that its transitivity is purely grammatical, nor can it be attributed to thematic structure. On this evidence we assume, like Grimshaw, that for the purpose of explaining apparent incongruity in the grammar, verbal polyadicity has to be examined at all three levels of grammatical information, namely, a-structure, f-structure and c-structure. According to Grimshaw, each of these levels of grammatical information corresponds to a certain type of transitivity.

We term the transitivity at a-structure *lexical* (or logical) *transitivity* and propose that this be split into two: regular and idiosyncratic lexical transitivity. We propose to call the contextual instantiations of the lexical form of a verb at c-structure *grammatical transitivity*, which may or may not correspond to its lexical transitivity. The lexical form of a verb corresponding to lexical or logical transitivity instantiated at f-structure is what we regard as functional transitivity.

3.2.2.1 Lexical transitivity: regular and idiosyncratic

Lexical transitivity is governed by the regular processes of the rules of lexical mapping, whereby the "grammatically interpretable arguments" of the verb are mapped onto the corresponding grammatical functions, including the grammatical function OBJ(ect).

25. "OKHUURA < ag th >" " eat" [*]
((SUBJ) (OBJ))

Mwaatthu khwoo! **ni - hi - khuur - e ekuluwe**
Eh! please sp ng eat tm 7.pork
Please, let us not eat pork

By idiosyncratic lexical transitivity we mean those cases where a specific lexical item is associated with theme in the verb's argument structure, so that that item becomes the only candidate for lexical insertion. Although the meaning of these verbs is assumed to have a non-compositional interpretation, that is, not derived from the sum of the meaning of the two components, the second element behaves as though it were the lexical insertion of the grammatical function deriving from the predicate argument structure. This is the case of **weetta oluva** "prostitute oneself" and other collocations as illustrated in (26):

26. "OPISA MRIMA" < ag th= MRIMA>
    | |
    "OPISA MRIMA ((SUBJ) (OBJ))" "be hardhearted"
    "slow" 3.heart

    M - pis - e **mrima** khweeli [T4]
    sp slow tm 3.heart truly
    Be truly strong! (A premonition of bad news)

3.2.3 Variable polyadicity in Emakhuwa matrix verb

Bresnan's definition of variable polyadicity (3.1.1.5) as being a feature of "action verbs" expressed by the capacity of these verbs to occur with variable numbers of grammatical arguments or functions is, perhaps, too restrictive. Indeed, we have found from our data that any verb may occur with variable numbers of grammatical arguments whether by lexical rules that affect the predicate argument structure of the verbs or otherwise. The lexical forms deriving from these processes constitute what may correspond to Grimshaw's grammatical transitivity. These are some of the morphosyntactic manifestations of such processes:

(a) Subjective or *Oblique* inversion -- a syntactic construction which consists of the functional inversion of NPs from the SUBJ(ect) position to OBL(ique) position and conversely. Compare (27.a) with (27.b):

27.a "OCIKUWA" < th > "twist"
"OCIKUWA ((SUBJ) (NCOMP))" [*]

Anannamwali a - ho - cikuw - a esiko
2.bridegroom 2.sp tm twist tm 7.neck
The bridegroom is twisted as for the neck

27.b "OCIKUWA" < th > "twist"
"OCIKUWA ((SUBJ) (LOC))" [*]

Esiko e - ha - a - cikuw - a anannamwali
7.neck 7.sp tm 2.om twist tm 2.bridegroom
The neck is twisted on the bridegroom

Further examples are provided in (3.2.3.1).

(b) Indirect relativization

Similar to oblique inversion is the case of indirect relativization, i.e., a relative clause in which the antecedent is not the subject of the relative clause and yet it behaves as its grammatical subject with subject co-referent in the verb, as may be observed in (28):

28. "OLIVA" < ag rec th >
"OLIVA ((SUBJ) (OBJ_2) (OBJ)) " "pay" [*]

28.a **mtthu ø - m - liv - ale aka msurukhu horowa**
1.person sp 1.om pay tm 1.Rs 3.money went
the person to whom I paid money has gone

where the recipient or goal expressed as the secondary object is also the grammatical subject (ø sp) and the agent (the logical subject) expressed in an oblique fashion, in the form of a kind of possessive pronoun.

(c) Objective or *accusative* construction - a syntactic construction which introduces a non-subcategorized grammatical function in the lexical form of a verb, that is, with no matching theta role in its predicate argument structure. Usually the NP introduced by this type of construction has a semantic co-referentiality with one of the NPs subcategorized by the verb[3]. Whatever the semantic interpretation of such a grammatical argument, its morphosyntactic configuration has properties akin to those of the grammatical function OBJ(ect), e.g.: cliticization, hence, *accusative* construction, a term evoking the Latin declensions. The lexical insertion of this type of construction requires that the NP that is introduced have the features of $NP_{[1/2]}$.

The example (27.b) above may be regarded as an illustration of this. But, perhaps, to be clearer, compare the example (29.a) with (29.b) below:

29.a **Erutthu ela ki - na - a - khw - a acikokho**
(a: 2.om)
7.body dm sp tm om die tm 2.parasites
As for my body, I am dying from [them] intestinal parasites [*]

[*]

29.b **Emankela ela ki - na - a - vah - a asithiyana**
(a: 2.om)
7.mango dm sp tm om give tm 2.girls
This mango I am giving [it] to the girls

where we find that both verbs apparently have an identical grammatical structure, i.e., the same number of grammatical functions or "*grammatical arguments*".

Both verbs are *grammatically* (in Grimshaw's terms) ditransitive and behave as though they were both triadic in their predicate argument structures. Semantically, the NP **acikokho** "intestinal parasites" in (29.a) has the properties of an oblique theta role Instrument, Rational or Cause, similar to those introduced by the Applicative extension morpheme, while in (29.b), the NP **asithiyana** "girls" behaves as if it were introduced by the extension morpheme Applicative with the features of the theta role Beneficiary. However, they both trigger grammatical object agreement and yet the verbs with which they occur possess a totally different predicate argument structure as may be seen in (29.c-d):

29.c "OKHWA" < th >
|
"OKHWA ((SUBJ) (OBL$_{rat}$))" "die"

29.d "OVAHA" < ag rec th >
| | |
"OVAHA ((SUBJ) (OBJ2) (OBJ))" "give"

Further discussion is developed in (3.2.3.1) on this evidence. At this juncture we propose that, on the basis of this construction, an extension of the meaning of Bresnan's "grammatical argument" (1982) be made, so as to cover not only subcategorized grammatical functions, but also those which are introduced by *grammatical transitivity* rules, that is, matching with an empty matrix theta role often corresponding to what are normally known as adjuncts.

We shall seek to find out whether these and other constructions showing variable polyadicity are pervasive in each of the three patterns of polyadicity of Emakhuwa matrix verbs. The aim of this exercise is twofold:

(a) to assess whether these constructions can be identified as being triggered by lexical rules,

(b) assuming that these constructions are identified as lexical rules, to assess how different these rules are from those introduced by extension morphemes, in terms of the theta roles affected.

3.2.3.1 The monadic verb and variable polyadicity

Given the pivotal importance it attaches to the grammatical function OBJ(ect), the concept of variable polyadicity, as defined by Bresnan seems to serve as a distinguishing feature between transitive and intransitive verbs, while Grimshaw's transitivity hypothesis posits that any verb occurring in the context of:

V/——— NP

is grammatically transitive. Thus unergative verbs, unaccusative verbs and idiosyncratic transitive verbs having a syntactic c-structure as above, are transitive in the sense that, for instance, such a syntactic environment makes them all sensitive to the rule of Passive. To illustrate this, let us give examples of unergative verbs (30.a), unaccusative verbs (31.a), and an idiosyncratic verb (32.a), which in Grimshaw's terms are grammatically transitive, and confront them with (33.a), which in Bresnan's terms is the only inherently or thematically transitive:

30.a "OROWA" < ag >
"OROWA ((SUBJ) (LOC))" "go" [T2]

.... va n - row - e wa - amaama
16dm sp go tm 17+2.mother
now let us go to my mother's

30.b va o - row - en'y - e wa - amaama
16dm 17.sp go psv tm 17+2.mother
now, let my mother's be gone to

31.a "OKHWA" < th >
"OKHWA ((SUBJ) (OBL$_{rat}$))" "die" [*]

Nakhuwo ho - khw - a ncuwa
1b.maize tm die tm 5.sun
the maize has died [because of] the sun

31.b Ncuwa ni - ho - khw - iy - a
5.sun 5.sp tm die psv tm
The sun has been the cause of death

32.a "WOOPA MWAHA" < ag th=(MWAHA) >
"WOOPA MWAHA ((SUBJ) MWAHA)" "chat" [T6]
"play" 3.tease

Nyeenyu asilopwana, m - mwe - eke no - op - eke
pro. 2.lads sp come tm sp play tm
Eh! lads please come and let us have

mwaha
tease
conversation

32.b Nyeenyu asilopwana, o - w - in'ye - eke
Eh! 2.lads 17.sp come psv tm
Eh! lads, please come here

wo - op - iy - eke mwaha
3sp play psv tm tease
and let conversation be undertaken

33.a "WAALA" < ag th >
| |
"WAALA ((SUBJ) (OBJ))" "plant" [T5]

mlopwana ha - al - a ikole cawe esaawa ene
1.man tm plant tm 8.coco pos 7.field adj
A man has planted a large farm of coconut trees

33.b Ikole ci - ha - al - iy - a ni mlopwana
8.coco 8sp tm plant pas tm cp 1.man
Coconut trees have been planted by a man

esaawa ene
7.field adj.
a large farm

The result is the following:

(i) Both the grammatical function OBJ(ect) in (33) and the OBL(ique) functions in (30-32) can serve as the grammatical subject of a Passive clause.

(ii) The only distinguishing feature of the output is that the OBL(ique) AG(entive) function is unacceptable in the Passive lexical forms of (30-32) while in (33) it is expressed by an ni+NP.

In conclusion: verbs whose conceptual structure is transitive, either as a result of lexical mapping of the thematic structure, or due to idiosyncratic semantic arguments, are not grammatically distinct from those intransitive verbs occurring in the context of:

V/ —— NP.

They are all sensitive to lexical rules such as that of Passive. This makes the concept of polyadicity in Grimshaw's terms more attractive than that of Bresnan. For it shows that polyadicity centred on the presence or absence of the grammatical function OBJ(ect) in a lexical form is irrelevant for morpholexical operations to take place.

As for variable polyadicity that is triggered by the lexical rules that simply provide alternative assignment of grammatical functions to the same theta roles in monadic verbs, the only syntactic fact that could be attributed to this kind of rule is Oblique inversion. The indirect relative construction as already illustrated is applicable to polyadicity patterns other than monadic. At this juncture we further illustrate oblique inversion in the examples (34.a-b):

34.a "WEEMELA" < ag loc >
"WEEMELA" ((SUBJ) (OBL))" "stop"/"stand" [*]

Nantto he - emel - a vancalani
pN tm stand tm 16+5 rubbish heap
Nantto has stood on the rubbish heap

Vancalani va - he - emel - a Nantto
16.rubbish heap 16.sp tm stand tm pN
On the rubbish heap has stood Nantto.

34.b "WEEMELA" < th loc > "stop"
"WEEMELA ((SUBJ) (LOC))"

Nikhuva ni - he - emel - a vammilo
5.bone 5.sp tm stop tm 16.throat
The bone has stopped in the throat

Vammilo va - he - emel - a nikhuva
16.throat 16sp tm stop tm 5.bone
In the throat there has stopped a bone

As has been observed earlier, this construction alters the assignment of grammatical functions onto the same thematic structure of monadic matrix verbs without recourse to an extension morpheme.

The accusative construction also occurs in monadic verbs. However, its transitivity features are such that they alter the thematic structure of the verb without recourse to an extension morpheme, as earlier described. We provide and discuss more examples of this construction below:

35.a "WEEMELA" < ag loc >
"WEEMELA ((SUBJ) (OBJ) (OBL))" [*]

Nantto ho - mwe - emel - a Mariaamu ottuli
pN tm 1.om stand tm pN 17.behind
Nantto is standing behind Mariaamu

Ottuli o - ho - mwe - emel - a Nantto Mariaamu
17.behind 17sp tm 1.om stand tm pN
Behind Mariaamu is standing Nantto

35.b "WEEMELA" < th loc >
"WEEMELA ((SUBJ) (OBJ) (OBL))" [*]

nikhuva ni - ho - mwe - emel - a Nantto vammilo
5.bone 5.sp tm 1.om stop tm pN 16.throat
The bone has stuck in Nantto's throat

Vammilo va - ho - mwe - emel - a Nantto nikhuva
16.throat 16sp tm 1.om stop tm pN 5.bone
In Nantto's throat there has stuck a bone

But we cannot have non-coreferential locative NCOMPs or locative modifiers, e.g.:

36.a "WEEMELA < ag loc >" [*]
"WEEMELA ((SUBJ) (OBJ) (OBL))"

*Nantto ho - mwe - emel - a Mariaamu vancalani
pN tm 1.om stand tm pN 16.rubbish heap
Nantto is standing on/by Mariaamu on/by the rubbish heap

36.b "WEEMELA < th loc >
"WEEMELA ((SUBJ) (OBJ) (OBL))"

*Nikhuva ni - ho - mwe - emel - a Nantto mwaako
5.bone 5.sp tm 1.om stop tm pN 3.mountain
The bone is stuck in Nantto's [throat] in the mountain

From the function-argument biuniqueness condition the inherent location theta role of the verb weemela "stop/stand" cannot be expressed by two OBL(ique) grammatical functions. Since the OBL(ique) complement NPs vancalani "at the rubbish heap", and mwaako "mountain" are not semantically co-referent with the NPs Mariaamu and Nantto that they complement respectively in the OBL(ique) function, then both examples are odd, hence ruled out. The only way that the example (36.a-b) could be acceptable would be to regard the NPs vancalani and mwaako as "clausal operators" describing the place at which the event of "Nantto is standing on Mariaamu" (36.a) or "the bone stopping at Nantto" (36.b) took place. But the most important aspects to retain in the examples above are:

(a) in monadic verbs the "accusative construction" expresses *location* and other theta roles usually mapped upon OBL(ique) functions. When this occurs the NPs instantiating such roles manifest the properties of the grammatical function OBJ(ect), e.g.: object marking. We have therefore mapped onto them the grammatical

function of object. Once this occurs in *unergative* verbs, the output cannot be subject to the *oblique inversion* rule, unless the NPs in the OBL(ique) function have a semantically co-referent locative NCOMP as in (35.a-b). That is, if these examples did not have the modifiers ottuli "behind" and vammilo "in the throat", then grammatical inversion without change of reading would be ruled out. Compare (35.a-b) with (37.a-b):

37.a Nantto ho - mwe - emel - a Mariaamu
pN tm 1.om stand tm pN
Nantto is standing on/by Mariamu

37.b Mariaamu ho - mwe - emel - a Nantto
pN tm 1.om stand tm
Mariaamu is standing on Nantto
*Nantto is standing on/by Mariaamu

(b) In unaccusative verbs, however, the *inversion* is always possible, whether or not the NP in the OBL(ique) function has a locative form or locative modifier:

38.a "OCARA" < th > "be full" [*]
|
"OCARA ((SUBJ) (OBL)"

Itthupo ci - ho - m - car - a Mariamu mmuru
8.lice 8sp tm 1.om full tm pN 18.head
Lice are full in Mariamu['s] head

Mmuru mu - ho - m - car - a itthupo Mariaamu
18.head 18.sp tm 1.om be full tm 8.lice pN
In the head [of] Mariamu is full of lice

38.b "OCARA" < th >
|
"OCARA ((SUBJ) (OBL))"

Itthupo ci - ho - m - car - a Mariaamu
8.lice 8.sp tm 1.om be full tm pN
Lice are full in Mariaamu

Mariaamu ho - car - a itthupo
pN tm be full tm 8.lice
Mariaamu is full [of] lice

39.a "OMELA" < th > "germinate" [*]
"OMELA ((SUBJ) (OBL))"

Namkaphwaani ho - m - mel - a Nantto
1.b armpit hairs tm 1.om grow tm pN
Armpit hairs have grown [on] Nantto

39.b **Nantto ho - m - mel - a namkaphwaani**
pN tm 1.om grown tm 1.b armpit hairs
Nantto has grown armpit hairs

In (39.a-b) it is not clear what the subject is, for both NPs are in gender [1].

39.c **Ipwi ci - ho - mel - a**
8.grey hair 8sp tm grow tm
Grey hair has grown.

39.d **Nantto ci - ho - m - mel - a ipwi**
pN 8sp tm 1.om grow tm 8.grey hair
Grey hair has grown [on] Nantto

39.e **Nantto ho - mel - a ipwi**
pN tm grow tm 8.grey hair
Nantto has grown grey hair

40.a "WAANYUWA < th >
"WAANYUWA (SUBJ)" "get torn up" [*]

Ekuwo e - ha - anyuw - a
7.cloth 7.sp tm tear tm
The cloth has got torn up

40.b **Ekuwo e - ho - mwa - anyuwa - a Mariaamu**
7.cloth 7.sp tm om tear tm pN
Mariamu has her cloth torn up on her

40.c **Mariaamu ha - anyuw - a ekuwo**
pN tm tear tm 7.cloth
Mariamu is torn up as for [her] cloth

41. "WAATAPUWA" < th >
    |
"WAATAPUWA ((SUBJ) (OBL))" "be large" [*]

41.a **Mariamu ha - atapuw - a malaku**
pN tm large tm 6.mouth
Mariamu is large as for her mouth

41.b **malaku a - ho - mwa - atapuw - a Mariamu**
6.mouth 6.sp tm om large tm pN
Mariamu has a big mouth
(There is a large mouth on Mariamu)

In some unaccusative monadic verbs, the meaning of the verb which is specified as the physical or mental property of its unique theta role, the "accusative" construction, introduces an NP which is *affected* by such properties. That is, the NP introduced by the accusative construction behaves as though it were the *experiencer* or the *patient* of such a property. This is the group of verbs we have classified as *"attributive"* verbs, some of which were listed at (8.c).

In such cases the non-subcategorized NP cannot be inverted to subject position unless the rule of Passive is applied.

42. "OVOLA" < th >
    |
"OVOLA ((SUBJ) (OBL_{EXP}) (OBL_{loc}))" "be cool"

42.a **wintho nno ikhove co - o - ki - vol - a** [T_5]
17.face dm 8.sleep 8.sp tm om cool tm
In the face [of mine] sleep has fallen on me

42.b **wintho nno o - ho - ki - vol - a ikhove**
17.face dm 17.sp tm 1.om cool tm 8.sleep
In the face [of mine] there has fallen sleep

42.c *Min ki - ho - vol - a wintho nno ikhove
pro sp tm cool tm 17.face dm 8.sleep

But,

42.d Min ki - ho - vol - iy - a wintho nno ikhove
pro sp tm cool psv tm 17.face dm 8.sleep
I am under sleep in my face

Since the accusative construction introduces a NP with the features of NP $\begin{bmatrix} +hum \\ +anim \end{bmatrix}$

no noun class or gender other than [1/2] are introduced as the *Experiencer* of these verbs as in (43.a-b):

43.a Mwaana ola ni - ho - m - mol - a ntthona [*]
1.child dm 5.sp tm 1.om cool tm 5.thirst
This child is thirsty (lit. the child, thirst is cooling him)

43.b *Epuri ni - ho - m - mol - a ntthona
7.goat 5sp tm 1.om cool tm 5.thirsty
The goat is thirsty

The awkwardness of (43.b) lies in the fact that **epuri** "goat" is in class [7] and yet by "accusative" construction it has an object marker infixed in the verb. Since no NP but those in gender [1] may trigger an object marker, cases like that in (43.b) are circumvented by using the Passive lexical rule as in (44):

44. Epuri e - ho - vol - iy - a ntthona
7.goat 7.sp tm cool pas tm 5.thirst
The goat is thirsty

Preliminary conclusions:

Variable polyadicity in Emakhuwa monadic verbs occurs in two different ways, namely, by lexical rules that alter the predicate argument structures of the verbs and by lexical rules that provide alternative lexical forms to the same argument structure. We have hitherto identified three kinds of construction which affect in one way or another the thematic structure of the monadic input verb without recourse to an extension morpheme:

(a) the Subject/Oblique inversion
(b) the Accusative construction and
(c) the Indirect relativization

However, the scope of the features to which each of these rules is sensitive suggests that they cannot be classed in the same group. We have found that the oblique inversion cannot take place in unergative and attributive unaccusative verbs that have been subject to the Accusative construction. In unaccusative verbs however, whether or not the Accusative rule has taken place, the oblique inversion may take place. This suggests that the thematic properties of the non-subcategorized NP are different in the two types of verbs. In the former group of verbs the lexical forms obtaining from the accusative construction include an NP with thematic properties similar to those of goal/experiencer and/or patient, such that they look as if they were mapped onto a verb whose predicate argument structure is dyadic, that is, with at least one inner theta role theme. In the latter group, i.e., in unaccusative verbs, the NP introduced by the lexical rule of Accusative has all the features of the theta role location. Transitive verbs or transitive verbal

lexical forms cannot be subject to nominative construction. This has been found to be the case in Chichewa where locative subject inversion is not possible with transitive verbs (Bresnan and Kanerva (1989)). Thus, we may claim that:

(a) the Subject/oblique inversion is sensitive to the predicate argument structures of verbs.

(b) It operates on verbs whose lexical forms include grammatical functions which, apart from the SUBJ(ect), are mapped onto theta roles lower than *theme*. This means that in patterns of higher verbal polyadicity, invariably involving *theme*, this rule will not be discussed.

(c) This is the only rule that provides different assignments of grammatical functions to the same argument structure in monadic verbs.

From the behaviour of the Subject/oblique inversion in monadic verbs that have been subject to Accusative construction we may claim that:

(a) the Accusative construction belongs to those lexical rules that provoke variable polyadicity in verbs by altering their argument structures. The only difference is that this rule has no morphemic indexation similar to extension morphemes.

(b) The NP introduced by the Accusative construction is treated grammatically as if it occupied the second highest place in the verb's predicate argument structure.

3.2.3.2 The dyadic verb and variable polyadicity

The hierarchical specification of the theta roles into which NPs are introduced by the Accusative construction described above, is clearly corroborated in dyadic verbs. In dyadic verbs it introduces an NP whose grammatical function has the features of a secondary object (OBJ2), that is, the NP is assumed to have the grammatical function whose theta role is Goal. This makes the dyadic verbs behave as though they were triadic or as if the lexical rule of Applicative had been applied to them:

45.a "OTHIKILA" < ag th >
"OTHIKILA ((SUBJ) (OBJ)" "cut"

Nantto ho - thikil - a nikokho [*]
pN tm cut tm 5.finger
Nantto has cut [his] a finger

Accusative construction:

45.b "OTHIKILA" < ag θacc th >
"OTHIKILA ((SUBJ) (OBJ2) (OBJ))" "cut"

Nantto ho - m - thikil - a Mariaamu nikokho
pN tm om cut tm pN 5.finger
Nantto has cut Mariamu a finger

46.a "OPOPHA" < ag th >
"OPOPHA ((SUBJ) (OBJ))" "incise"

Mariamu ho - poph - a ihuku [*]
pN tm cut tm tattoos
Mariamu has [her body] tattooed

Accusative construction:

46.b "OPOPHA" < ag θacc th >
"OPOPHA ((SUBJ) (OBJ2) (OBJ))" "incise"

Mariamu ho - m - poph - a Zeena ihuku
pN tm om cut tm pN 7.tattoos
Mariamu has tattooed Zeena

47.a "OMETTHA" < ag th >
"OMETTHA ((SUBJ) (OBJ))" "cut"(hair)

Juuma ho - metth - a ekharari
pN tm cut tm 7.hair
Juuma has cut [his] hair

Accusative construction:

47.b "OMETTHA" < ag θacc th >
"OMETTHA ((SUBJ) (OBJ2) (OBJ))" "cut"(hair))

Juuma ho - m - metth - a ikharari mwaamwana awe
pN tm om cut tm 8.hair 1.child pos.
Juuma has cut his child's hair

The examples in (45.a), (46.a) and (47.a) have an ambiguous interpretation, depending on whether the subject is taken to be mapped onto Agent or Theme theta role. For instance, (47.a) may be interpreted either as "Juuma has had his hair cut" (i.e. Juuma = Theme), or "Juuma has cut somebody's hair " (i.e. Juma = Agent). In order to make this unambiguous, one makes use of thematic specification through the Accusative construction. If the grammatical subject is taken to be theme then the accusative construction will have to assume:

(a) that there is an Agent, i.e., an external, so to speak, theta role associated with the upmost role in the hierarchy of theta roles,

(b) that by virtue of the accusative construction the current theme in subject function will be promoted, so to speak, to a higher position in the hierarchy of theta roles.

If the grammatical subject is taken to be mapped onto the Agent role then the objective construction must assume that the object introduced by it will be higher in the hierarchy of roles than the current theme.
In either case there are two aspects to be observed:

(a) the NPs introduced by the Accusative or objective construction must be co-referential to the NP mapped onto the theta role *theme*. Otherwise the clause is unacceptable:

```
          ┌──Refl.m──┬──────┬──────────────┬──────┬──────┐
47.c *Juumma he - e - metth - a ikharari ca mwana  awe
       pN     tm  Refl cut    tm 8.hair   gp 1.child pos
     *Juuma has cut himself hair of his child
```

where the NP introduced by the Accusative construction and instantiated by the reflexive morpheme cannot be read as co-referring with the NP **ikharari ca mwana awe** "his child's hair", mapped onto the theta role *theme*. On the other hand, if **mwana awe** "his child" were taken as being introduced by the "accusative" construction as in (47.d):

```
47.d *Juumma he - e - metth - a ikharari mwana  awe
       pN     tm  Refl cut    tm 8.hair 1.child pos
     *Juuma has cut himself hair his child
```

it would violate the biuniqueness condition insofar as two NPs, e.g.: the reflexive co-referent and **mwana awe** "his child", would be mapped onto one single theta role.

(b) The upper limit of the possible number of objects that a verb can have must be strictly observed. That is, cases such as those in (47.e) are ruled out as ungrammatical, for either NP **ekharari** "hair" or **paapuseeku** "hairstyle" is perceived grammatically as having no theta role to map onto.

47.e ***Ki - ho - m -metth - a paapuseeku ekharari Nantto**
sp tm om cut tm 1b. hairstyle 7.hair pN
*I have cut paapuseeku style Nantto's hair

It would be possible to interpret **paapuseeku** "hairstyle" as an adverb of "manner", but in constructions such as this, the adverb is grammatically expressed as though it were an OBJ(ect). Since there cannot be three objects in one single verbal lexical form, a violation of the biuniqueness condition occurs.

Having found that the Accusative construction operates both in monadic verbs and in dyadic verbs, it would be interesting to investigate the relative scope of the Accusative construction and of the lexical rule of Applicative in the different patterns of verbal polyadicity. In other words, could both mechanisms be considered concomitant but in complementary distribution or concomitant and co-occurrent? Unfortunately questions of this sort lie outside the scope that we have set ourselves in this research.

3.2.3.3 The triadic verb and variable polyadicity

A preliminary difference of scope between what we have described as the Accusative Construction and the

lexical rule of Applicative is that while the former does not occur in triadic verbs, the latter occurs in all three patterns of verbal polyadicity. There is therefore an asymmetrical (or perhaps complementary) distribution of these two mechanisms. It would appear that the lack of the Accusative construction in triadic verbs is both semantically and thematically predictable. Semantically, for the NP introduced by this rule has to be in gender or class [1/2]. Thus, whether it is locative or not, it has to trigger agreement in the verb. This means that the NP behaves as if it were inserted under the grammatical function linked to a theta role higher than *theme*. Thematically, for as has been described, the Accusative construction introduces a theta role lower than the highest theta role of the verb's predicate argument. Since the triadic verbs have the theta role *goal*, and given that the theta role *Beneficiary* is introduced by the Applicative rule, the Accusative construction becomes redundantly squeezed out.

Indirect relativization, that is, the construction in which either the secondary or the primary object changes grammatical function with the logical subject without affecting the verb's thematic structure, may, as earlier observed, be considered as akin to SUBJ(ect)/OBL(ique) inversion. In this sense, one may posit that this is another instance of variable polyadicity in which there is neither an extension morpheme indexing this morpholexical operation nor a change of the verb's thematic structure taking place. This occurs in triadic and/or triadicized dyadic verbs through the accusative construction:

48.a "OVAHA" < ag rec th >
"OVAHA ((SUBJ) (OBJ2) (OBJ))" "give" [*]

Mwalapwa ø - m - mah - ale aka nikhuva khanokhuwa
1.dog sp 1.om give tm Rs 5.bone ng tm bark
The dog I gave a bone to does not bark (at people)

48.b "WUNTA" < ag th >
"WUNTA ((SUBJ) (OBJ) (OBJ_2))" "break" [*]

Mwalapwa ø - m - unt - ale aka mwetto ho - ki -lum - a
1.dog sp 1.om break tm Rs 3.leg tm om bite tm
The dog whose leg I broke has bitten me

3.2.4 Concluding remarks on Emakhuwa verbal polyadicity

The study of lexical polyadicity and grammatically variable polyadicity of matrix verbs has provided us with some insights that allow us to relate the grammar of these verbs with that of extended verbs. First, we have found that the concept of polyadicity needs to be expanded in order to capture certain grammatical relations in monadic verbs. By expanding the concept of polyadicity to theta roles that can be added to a matrix verb and assigned to grammatical functions other than the OBJ(ect), we can claim that monadic verbs have variable polyadicity as well. The lexical rules responsible for variable polyadicity without changing the predicate argument structure of verbs have been described as the Subject/Oblique inversion, which occurs in monadic verbs only, and the indirect relativization which occurs in triadic or ditransitivized dyadic verbs.

The Accusative Construction, which operates both in monadic and in dyadic verbs, behaves like other lexical rules that alter the predicate argument structure of the input verbs. However, it lacks any morphemic index of its operation.

3.3 Transitivity and the status of grammatical relations in Emakhuwa matrix verbs

A number of studies in Bantu Syntax have come up with results that show that, though the Bantu languages share common features such as the existence of the lexical rules of Applicative, Causative, Passive and other lexical rules, there are remarkable parametrical variations in the grammatical behaviour of the function OBJ(ect). These variations include factors or criteria for grammatical agreement, number of objects that can be grammatically marked in the verb, object passivizability, etc. (Guthrie (1967), Whiteley (1968), Givon (1969), Morolong and Hyman (1977), Kisseberth and Abasheikh (1977), Hyman and Duranti (1982), Bresnan and Mchombo (1986, 1987), Bresnan and Moshi (1988), Alsina and Mchombo (1989), etc.)).

This section aims at describing the main facts about grammatical relations in the Emakhuwa matrix verbs, not so much to compare Emakhuwa with other Bantu languages as to provide a basis for the analysis of the role of extension morphemes in subsequent chapters. Before we undertake this task, a brief overview of the literature on Bantu transitivity we found relevant to the analysis of our data in this section is introduced.

3.3.1 Transitivity in Bantu - a synopsis

Hopper and Thompson's transitivity hypothesis (1980) appears to encapsulate either directly or indirectly all the assumptions that are inherent in the literature we have scrutinized. For instance, the definition of transitivity "as a global property of an entire clause, such that an activity is "carried-over" or "transferred" from an agent to a patient" (Hopper and Thompson (1980)) is a traditional one. This is assumed by both Guthrie (1967) and Whiteley (1968).

Although Hopper and Thompson explore the different components of the notion transitivity for purposes other than the study of the grammar, e.g.: *discourse analysis*, they bring in an element of transitivity constant in every study of grammatical relations in Bantu that we have consulted. That is, "the semantic interpretation of transitivity" [through] its "morphosyntactic signals" manifested mainly by object marking or as they say "**object individuation**". Indeed, all the authors we referred to above centre their analysis on the behaviour of the grammatical function OBJ(ect): verbal adjacency, cliticization, passivizability etc., in order to unveil and typify information about grammatical relations in Bantu. We present two complementary views on this matter, namely, those of Hyman and Duranti (1982) and of Bresnan and Mchombo (1987); complementary, not so much in the sense that each one focusses on aspects not entirely overlapping with those of the others, but rather in what we have found useful for the treatment of our data.

3.3.1.1 Hyman and Duranti - "On the object relation in Bantu"

Hyman and Duranti's typological study of grammatical relations in Bantu (1982) takes the object as the kernel of Bantu transitivity. After having posited that grammatical relations in Bantu are instantiated by three basic grammatical functions, namely, the SUBJ(ect), the (direct) OBJ(ect) and the OBL(ique)[4], they present two aspects of Bantu transitivity, all around the grammatical function OBJ(ect), i.e.,

(i) the properties of the grammatical function object and
(ii) the determining factors of objecthood.

These two aspects of grammatical relations allow for grouping the Bantu languages typologically by referring to some parametrical variations that include word order, cliticization and thematic hierarchy.

The main facts about grammatical relations, definable by reference to the grammatical function OBJ(ect), that are mentioned by Hyman and Duranti are:

(a) "only transitive verbs can support an object when there is no verbal extension present".

(b) "In each Bantu language there exists a small number of simplex (monomorphemic [sic]) verbs which, in addition to the subject, can take two nominal complements without marking either one with a preposition".

(c) "Indirect object" is, if at all expressed a difficult notion to discern in Bantu languages.

(d) "One cannot determine solely from the absence of preposition whether a postverbal noun is an object."

With regard to (d) Hyman and Duranti provide an example from Haya of what they describe as the "associative construction" (ex.: 7) which we quote here as (49):

49. A - ka - hend' omwaan' omukono
he P3 break child arm
"He broke the child's arm"

(from Hyman and Duranti (1982), Haya language)

whereby two postverbal nouns occur and they claim that one of them cannot be the object. In order to find out which of the two nouns is the object Hyman and Duranti refer to three criterial tests of objecthood, namely, word order, subjectivization and object marking.

According to these criteria a true object should:

(a) immediately follow the verb,
(b) be capable of assuming the subject role through passivization,
(c) be object marked (OM) within the verbal complex.

With these criteria they found that in cases where two unmarked postverbal nouns occur, one of which being

"the affected possessor such as the above example, omukono "arm" cannot be considered as OBJ(ect) for it fails to access to the three properties of object. It is rather a prepositionless, [that is], an unmarked oblique" (my emphasis).

We shall scrutinize this and other transitive facts in section (3.3.2). As for the factors determining objecthood Hyman and Duranti converge with Hopper and Thompson (1982), in pointing out three factors that determine objecthood:

(a) the hierarchical position of the theta role onto which the NP is mapped within the verb's predicate argument structure,

(b) the NP's selectional restrictions which range from humanness, and animacy to referentiality, and

(c) the NP's "determinedness".

Concerning (a) Hyman and Duranti establish that the NP whose theta role is higher in the following hierarchical thematic structure:

50. Benefactive > Recipient > Patient > Instrument.

has more access to the properties of object than one instantiating a theta role lower in the scale. Since benefactive theta roles tend to be assigned to (human) animate NPs, an NP inserted under the grammatical function mapping onto this role is the candidate with the best features for standing for the grammatical function OBJ(ect).

The same is the case with the grammatical persons, which have access to objecthood in hierarchical order, as in (51):

51. 1st > 2nd > 3rd human > 3rd animate > 3rd inanimate

A third determining factor of objecthood is that of "animacy". Hyman and Duranti found

"no Bantu language where animacy is irrelevant in determining which arguments will acquire object properties".

Using these factors and the criteria of objecthood, i.e., word order, cliticization and thematic hierarchy of NPs, Hyman and Duranti make the following observations:

(a) Word order

In ordering object NPs with the verb "some languages are case oriented, (Logooli), whereas others are animacy oriented, (Sesotho)".

(b) Cliticization

Taking into account the role of clitics, e.g.:, *pronominalization*, the number and sequence of clitics within a verb and the interaction between clitics and

other grammatical processes, e.g., "*left dislocation*", "*relativization*" and "*object agreement*", Hyman and Duranti found that "with the exception of some few languages, (Northwestern end of the Bantu zone):

(i) all Bantu languages use the clitic (OM) slot for pronominalization,
(ii) all the Bantu languages they have examined exhibit clitic OM with a "left dislocation",
(iii) only some Bantu languages require clitic resumptive pronouns in relative clauses, or have "true" object agreement".

By "true object agreement" they mean "a noun can co-occur with a co-referential OM clitic without there being a syntactic break characteristic of right dislocation". We shall dispute this assertion when analysing Emakhuwa facts on objecthood, which appear to be similar to those in Sesotho, the language they refer to in making their distinction between *pronominalization* and "*true*" object agreement.

(c) Hierarchy of theta roles (PA)

According to this criterion Hyman and Duranti "typologize" the Bantu languages along the lines of the following parameters:

(i) "the degree to which Person and Animacy play a role in determining the object properties of arguments, and

(ii) the means by which they do so".

According to the former parameter Bantu languages may be split into "animacy oriented, e.g. Sesotho, and case oriented, e.g. Logooli". In languages where animacy plays a major role, they found that "either word order or access to grammatical processes can be affected".

They also found that in those animacy oriented languages which allow "multiple clitics in the OM slot, participants that are higher in the various hierarchies are generally placed closer to the verb radical as in Haya". We take and quote their example in (52):

52. N - ka - ga - ba - ku - siig - il - a
sp tm om om om smear appl tm
[it] [them] [you]
"I smeared it [oil] on them for you"

(Hyman and Duranti (1982)).

where the example not only shows the reverse ordering of the arguments "**instrument < patient < benefactive**" but also the sequence of "**3rd inanimate < 3rd animate < 2nd**, demonstrating that the higher the predicate argument and the higher the person the closer to the verb radical.

As for the latter parameter Duranti (1979) referred to by Hyman and Duranti (1982) has found that where there is a miscellaneous occurrence and conflicting factors influencing objecthood, e.g., thematic hierarchy, animacy and person, the resolution of the conflict tends to be:

(i) "the person factor takes prominence over the remaining factors,

(ii) animacy and case are equal in strength."

On this ground they suggest splitting the hierarchy of factors of objecthood into two parts:

(a) 1st > 2nd > 3rd.
(b) 3rd human > 3rd animate > 3rd.

Hyman and Duranti's proposal for the analysis of the grammatical relations in Bantu languages provides us with a referential framework, in line with which we shall analyse the grammatical relations exhibited by the Emakhuwa matrix verbs. But before we undertake this task, we look at what Bresnan and Mchombo (1987) have to say on subject and object agreement in Chichewa.

3.3.1.2 Bresnan and Mchombo - on "subject" and "object" agreement and co-referentiality in Bantu - the Chichewa case.

The kernel of Hyman and Duranti's typological study of Bantu transitivity, which we have just reviewed, is the determining factors of NP accessibility to features of objecthood. The present review concerns the status of coreferentiality between subject and object affixes and subject and object NPs.

The motivation for this is that in Emakhuwa there is an asymmetrical behaviour between subject and object NPs in that no verb is left without a subject marker, while object NPs are only marked if in gender [1], (i.e. cl.1/2), where marking is obligatory.

Bresnan and Mchombo (1987), dealing with the coreferentiality between NPs and their corresponding pronominal realizations, present alternative hypotheses, viewing the relationship between subject and object NPs and their corresponding markers in the verb as either grammatical or anaphoric.

The former view maintains that:

"the object marker (OM) is synchronically a grammatical agreement marker, and the postverbal NP an object of the verb; hence the OM lacks any pronominal function and serves only to express redundantly the person, number, and gender class of the NP" (my emphasis).

In contrast the anaphoric agreement hypothesis maintains that:

"the OM is synchronically an incorporated pronominal, and the postverbal NP is a postposed or "right-dislocated" topic to which the OM is anaphorically linked".

Taking Chichewa as the main source of their observations, Bresnan and Mchombo side with the latter hypothesis. As regards the status of co-referentiality between the subject NP and the SM they posit that:

"the (SM) is **ambiguously** used for grammatical and anaphoric agreement" (my emphasis). To illustrate that "the pronominal interpretation of a (SM) arises when and only when there is no subject NP in the phrase structure" they provide examples (2.a) and (3.a) which we collapse here as (53.a-b):

53.a S V O: **njuchi zi - na - lum - a alenje**
bees SM tm bite tm hunters
"The bees bit the hunters"

53.b S V O: **njuchi zi - na - wa - lum - a alenje**
bees SM tm OM bite tm hunters
"The bees bit them, the hunters"

"If we omit the subject NPs from the above examples a pronominal subject interpretation in fact occurs", they conclude.

As regards the status of co-referentiality between the object NP and the OM they have the following to say:

"The OM is **unambiguously** used for anaphoric agreement. In other words, it is not a grammatical agreement marker at all, but an incorporated object pronoun. From the uniqueness condition it follows that an object NP can occur in the phrase structure only when OM is lacking".

How do they explain the co-occurrence of object NP and OM in (53.b)?

They argue that "what in [53.b] has been marked as (OM) "is in fact something else". An anaphoric marker (AM)? Perhaps.

In order to defend this they provide the following arguments:

(a) The canonical position of the object NPs in Chichewa:

The "fixed postverbal position of the object NPs in Chichewa" (my emphasis) proves to be a valuable test of the anaphoric status of the OM. For only when the OM occurs can the object NP take positions other than the canonical one.

(b) Predicate argument binding of discourse functions:

The fact that "the grammaticized discourse functions" e.g.: FOC(us) and TOP(ic) must be linked to predicate argument structure, by binding an argument either functionally or anaphorically, explains the apparent co-occurrence of OM and an object NP in its canonical position. That is, "the object pronoun incorporated in the verb is anaphorically binding a topic NP in S".

(c) Discrepancy between sentence-internal grammatical agreement and anaphoric agreement

Using the discourse functions TOP(ic) and FOC(us) in the grammar they found that:

"a direct object can be questioned in place in Chichewa, but only when there is no OM prefix on the verb" (my emphasis).

And they provide the examples (13) and (14) which we quote as (54.a-b):

54.a (Kodi) mu - ku - fun - a chiyani?
Q you tm want tm what
"What do you want"

54.b ??(Kodi) mu - ku - chi - fun - a chiyani
Q you tm OM(7) want tm what
"What do you want (*it)?"

They argue that the above example demonstrates that

"the choice of agreement features of person, number, and gender in the anaphoric use of pronominals is independently motivated, and need not - indeed, should not - be accounted for by a sentence-internal syntactic agreement mechanism".

This and other tests led them to come to the following conclusions:

(i) "an object NP that agrees with the object marker on the verb is really a topic NP outside of the verb phrase, and is anaphorically bound to the OM, a pronoun object incorporated in the verb".

(ii) "...an incorporated pronoun becomes an agreement marker when it loses its referential meaning [...] while the other functional information it carries - person, number, and gender class - remains". "When that happens the completeness condition will require a syntactic phrase having the same function as the agreement marker to supply the missing semantic information, and the consistency condition will automatically enforce grammatical agreement" (my emphasis).

(iii) "the difference between an incorporated object pronoun and a grammatical object agreement marker is merely the presence or absence of the referential property, which is represented by the semantic PRED feature. When the PRED feature is present the SM or OM is the subject or object argument of the verb. Functional uniqueness prevents anything else - such as an external NP - from functioning as subject or object. But when the PRED feature is absent, functional uniqueness would no longer prevent the occurrence of the OM with an object NP within the verb phrase. The uniqueness condition requires only that all of the remaining pronominal features - number, gender class, and person - be consistent with the features of the NP subject or object" (my emphasis).

Bresnan claims that "some Bantu languages [including Emakhuwa] are now undergoing grammaticization of the pronominal OM into an object agreement, parallel to Givon's hypothesis on the evolution of SM." In their view, "what must happen in this process is simply the loss by the pronominal OM of its PRED feature". The examples they take from Imithupi dialect of Emakhuwa, supplied by Stucky (1981,1983), are quoted here as:

55.a **Araarima a - ho - n - lih - a mwaana**
Araarima SM tm OM feed tm child
"Araarima fed the child"

55.b ***Araarima a - ho - lih - a mwaana**
Araarima SM tm feed tm child

55.c **Araarima a - n - lih - ire mpani**
Araarima SM OM feed tm who
"Who did Araarima feed?"

The fact that these examples show a compulsory occurrence of OM (55.a vs. 55.b) and admissibility of interrogative pronoun with OM (53.c), both characteristic of agreement status of OM, shows that Emakhuwa contrasts with the pronominal status of OM in Chichewa. We can therefore claim that OM is grammatical agreement. However, the fact that not only " is the OM obligatory with the human classes" but that these are the only ones marked in the verb, makes the distinction between anaphoric and grammatical agreement, in our view, rather incongruent. It is our view that neither the grammatical agreement hypothesis nor the anaphoric agreement hypothesis fully explains the agreement phenomenon in Emakhuwa. For further discussion on this see sections (3.3.2.5) and (3.3.2.6).

3.3.2 The facts about the object in Emakhuwa

The literature we have just reviewed provides us with three main aspects of Bantu transitivity that can be used as pointers in the description of Emakhuwa grammatical relations deriving from matrix verbs, namely,

(i) transitivity diagnosis

A pattern of transitivity features present in almost every Bantu language allows for the formulation of a diagnostic test of objecthood which contains three main variables:

(a) word order,
(b) cliticization, and
(c) passivizability.

(ii) Factors of object individuation

These include such variables as the hierarchical position of the theta role assigned to the grammatical function object, the hierarchical order of the grammatical persons or grammatical co-referents, and the gender class of the object NPs (Hyman and Duranti (1980)).

(iii) Pronominal co-referentiality

The nature of the co-referentiality existing between the subject agreement marker (SM) or the object agreement marker (OM) and the subject NP or the object NP, is characterized by Bresnan and Mchombo (1987) as anaphoric rather than grammatical.

With the exception of the transitive feature *passivizability* which is left for chapter five, I shall present, analyse and describe the transitivity facts in Emakhuwa using the above pointers.

In this exercise, the treatment of the data assumes the lexical mapping theory outlined earlier in (1.2.3), though informally. In particular, the assignment of intrinsic classifications to theta roles and its consequences in the grammar (Bresnan and Moshi (1990)) is taken to be the one of crucial elements in the explanation of why some NPs have access to features of objecthood and others do not.

To start with the analysis of the object features in Emakhuwa let us consider Hyman and Duranti's observation that "one cannot determine solely from the absence of a preposition whether a postverbal noun is an object" (see: 3.3.1.2).

In the light of Emakhuwa data this observation is correct, but wrongly illustrated by the so-called "associative construction". Indeed examples similar to (49) taken from Emakhuwa show that both **mwaana** "child" and moono "arm" have access to object properties, as may be observed in (56):

[*]

56.a **Mariamu ho - mu - unt - a mwaana moono**
1.pN tm om break tm 1.child 3.arm
Mariamu broke the child's arm

56.b **Mariamu ho - mu - unt - a moono mwaana**
Mariamu broke the child's arm

56.c ***Mariamu ho - ont - a moono mwaana**
Mariamu broke the arm child

56.d *Mariamu ho - ont - a mwaana moono
Mariamu broke the arm the child

56.e Mwaana ho - ont - iy - a moono (ni Mariamu)
1.child tm break pas tm arm pp 1.pN
The child has been broken as for the arm by Mariamu

56.f Moono o - ho - ont - iy - a mwaana (ni Mariamu)
3.arm 3.sp tm break pas tm 1.child cp 1.pN
The arm has been broken as for the child by Mariamu

(a) word order:

The examples (56.a-b) show that word order (in terms of what is known as "right dislocation") is possible in both ways,

(b) cliticization:

Only the NP mwaana cliticizes, for it is in gender [1]. However the grammatical unacceptability of (56.c-d) is not due to lack of cliticization but rather to the violation of gender hierarchy expressed by the assignment of the NP moono "arm", in gender [-1], to a higher theta role in the presence of mwaana "child" in gender [1].

(c) Passivizability:

The examples given in (56.e-f) show that both mwaana "child" and moono "arm" can be taken to be the subject of Passive, thus passing the *passivizability* test.

Thus, what is not object in Haya is object in Emakhuwa. That is, what is an "unmarked oblique" object in Haya has access to object properties in Emakhuwa. This variation suggests that Emakhuwa re-interprets the "associative construction" grammatically in the following terms:

(a) the NP **moono** "arm" is not an "unmarked oblique" function as Hyman and Duranti claim but rather the *primary* OBJ(ect), that is, linked to the theta role *theme* of the predicate argument structure of the verb **wuunta** "break".

(b) the NP **mwaana** "child" is a non-subcategorized NP introduced into the predicate argument structure of the verb **wuunta** "break" by the accusative construction linked to the theta role *Goal* or *Experiencer*. Hence it is OBJ2.

Accusative construction:

57.a "WUUNTA" <	ag	θ_{acc}	th	> "break"
i.c.:	[-o]		[-r]	
acc.c.:		[-r]		
deft:	[-r]			
f.und.:	S	S/O	S/O	
w.f.:	*S	O	O	

or:

57.b "WUUNTA" <	ag	θ_{acc}	th	> "break"
i.c.:	[-o]		[+o]	
acc.c.:		[-r]		
deft:	[-r]		[+r]	
f.und.:	S	S/O	O_{θ}	
w.f.:	S	O	O_{θ}	

By the Function-argument biuniqueness well-formedness condition (57.a) is ruled out, for there cannot be two objects triggering cliticization in a single clause. Since the theta role has the intrinsic classifications of [-r] or [+o], the latter is chosen when the rule of Accusative construction is applied. In such an event, according to the theory of Lexical Mapping (Alsina and Mchombo (1989)) the theta role theme becomes restricted, i.e, it cannot have object properties such as object agreement marker, passivization etc. Hence the examples (56.a-b) are represented by (57.b). But since the Passive rule suppresses the highest theta role of a given predicate argument structure, the examples (56.e-f) are a result of what we have described as the subject inversion, which is possible after the rule of Passive has been applied to (57.a) as (57.c) shows:

57.c

"WUUNTA" <	ag	θ_{acc}	th > "break"
i.c.:	[-o]		[-r]
acc.c.:		[-r]	
Psv.:	ø		
deft:			
f.und.:		S/O	S/O
w.f.:		S	O
or:		O	S

Since by rule of Passive (57.a) loses its highest theta role, the NPs **mwaana** and **moono** can be the subject of a Passive clause for they are linked to theta roles which are intrinsically unrestricted.

Assuming that Haya interprets the "associative construction" grammatically in much the same way as Emakhuwa does, then the fact that **moono** (*omukono* in Haya) "arm" can passivize in Emakhuwa but not in Haya, suggests that there is a parametrical variation between these two Bantu languages. Whether this parametrical variation derives from the Intrinsic Classification Parameter (Bresnan (1990)), according to which some languages have two "inner" roles with the syntactic features of [-r] and others admit only one (see: 5.1.3), is an issue that is not dealt with at this juncture. Instead, what follows is an attempt to describe the main features of the object in Emakhuwa using each diagnostic variable in turn.

3.3.2.1 Markedness: oblique versus object functions

Two senses of morphological markedness are taken here as being at play in the distinction of object from oblique:

(a) the presence or absence of a *preposition*-like prefix to NPs or locative marking of NPs;

(b) the possibility of cliticization or object marking. (See: 3.3.2.4).

In any of the three patterns of polyadicity of matrix verbs, oblique grammatical functions, whether they are derived from an inherent oblique theta role or are "clausal operators", are usually marked either by a *preposition*-like morpheme (**ni** or **na** "with/by") as in:

58.a "WEETTA" < ag loc >

"WEETTA ((SUBJ) (OBL))" "walk"

o - he - ett - e ni ohiyu, [T7]
sp ng walk tm pp 14.night
Do not travel at night

we - ett - a ni ohiyu o - naa - khw - a
sp walk tm pp 14.night sp tm die tm
if you travel at night you will die

58.b "OHULA" < ag th >

"OHULA ((SUB) (OBJ) (OBL$_{ins}$))" [*]

Nantto kha - no - hul - a nkhora ni ntthukulo
1.pN ng tm open tm 3.door cp 3.key
Nantto does not open a door with a key

no - hul - a ni mmevo
tm open tm cp 3.wind
he opens [it] with a gust of wind (magic).

or by locative prefixes as in (58.c-d):

58.c "OROWA" < ag loc >

"OROWA ((SUBJ) (OBL))" "go" [T2]

ki - naa - rukunuw - a ki - row - e waamayi aya
sp tm turn tm sp go tm 17.mother pos
Let me turn back and go to her mother

58.d "OHELA" < ag th loc >

"OHELA" ((SUBJ) (OBJ) (OBL))" "put"

ø - aa - m - hel - a vankuttuni [T9]
sp tm om put tm 16+3 cloth pocket
he used to put it[chicken] in the front pocket.

However, examples such as (59.a-d) below show instances where an oblique object (59.a-b) is morphologically unmarked and a direct object (59.c) is marked with a locative prefix while in (59.d) we find ourselves in difficulty determining which is the NP with oblique grammatical functions, on the basis of markedness:

59.a "WEETTA" < ag >
|
"WEETTA ((SUBJ) (OBL))" "walk" [T7]

ankunya ale ye - ett - ale imaara piili
2.white dm sp walk tm 8.turn 8.nm
no sooner the white man had walked two steps

khwiiraka akharamu ni - ha - attam - an - a
cp+say 2.lions sp tm close rcp tm
and the lions said: we are close (the lions attacked him)

59.b "OKHOOLA" < ag >
|
"OKHOOLA ((SUBJ) (OBL)) "depart" [T7]

Phataari ki -khool - e evuka yeela
cp+better sp depart tm 7.darkness 7.dm
I [had better] leave [while still] dark

59.c "OCUWELA" < ag th >
| |
"OCUWELA ((SUBJ) (OBJ))" "know" [*]

Juuma naa - cuwel - a omathalani
1.pN tm know tm 17+6.former dwellings
Juma knows the dwellings

w - aa - khal - a ehu khalayi
17Rs tm live tm sp longtime go
where we lived before

59.d "OHELA" < ag th loc >
| | |
"OHELA ((SUBJ) (OBJ) (OBL))" "put" [*]

Nantto ho - hel - a icanela enupa
1.pN tm put 8.window 7.house
Nantto put windows in the house

Emakhuwa data show us therefore that:

(a) though locative classes are used more in the prepositional sense, they may, as members of the noun class system, be inserted under the grammatical function OBJ(ect), e.g.: example (59.c).

(b) Locative classes are by no means the only ones to morphologically convey the obliqueness sense. Grammatical oblique functions in matrix verbs may be marked with gender classes (7/8.cl), (5/6.cl) and (14.cl) too.

This evidence suggests that thematic obliqueness, that is, the grammatically expressed oblique theta roles, may not always be morphologically distinct from OBJ(ect) grammatical functions. This corroborates Bresnan's theory of polyadicity, which claims that there is an independence between thematic structures and their modes of expression at functional level (Bresnan (1988)). Only when oblique functions are expressed by prepositional-like Phrases of the type **ni+NP** are we able to discern objecthood from obliqueness.

3.3.2.2 Transferability of grammatical functions

There is one syntactic construction in Emakhuwa responsible for the exchanging of functions between NPs of a given clause: the Subject/Oblique inversion. This construction is mainly a feature of intransitive or intransitivized verbs (eg.: passivized transitive verbs), and is characteristically a pattern transferring oblique grammatical functions to the subject function and conversely.

This includes the phenomenon described by Bresnan and Kanerva as the "Locative inversion" in Chichewa (1987). Examples of this type of construction have been provided extensively in (3.2.3.1). We discuss this type of construction further in section (3.3.3.2).

The exchanging of grammatical function object to the subject, deriving from the application of the lexical rule of Passive, is the criterion most referred to in the determination of whether an NP is object or not. Given that this topic constitutes part of the core of our investigation, we adjourn the description of the role of Passive in Emakhuwa grammar to section (5.2). At this juncture all we can say is that, as has been demonstrated earlier, passivizability is not limited to the grammatical function OBJ(ect) in Emakhuwa.

3.3.2.3 Contiguity and word order

One of the tests of objecthood to be found operating in a wide range of Bantu languages is that of contiguity or adjacency of the object to the verb. According to this criterion, in a matrix word order, an object is to be found in the position immediately following the verb. This is formulated by Bresnan and Mchombo in the following terms:

"All object NPs (in Chichewa) are generated in a fixed postverbal position in a VP constituent" (Bresnan and Mchombo (1987)).

The data we have in Emakhuwa provides us with four instances in which there is a sequence of two unmmarked NPs following the matrix verb. Two of these cases emerge from the semantic interpretation of the "accusative construction": the *Rational* or *motive* interpretation and the object to object co-referentiality.

The two remaining instances derive from two syntactic constructions: one is the case of subcategorization frames deriving from triadic matrix verbs, and the other is the case of unmarked oblique functions.

We have already shown that, in the case of object-to-object semantic co-referentiality, otherwise described as the "associative construction" (Hyman and Duranti (1980)), and analysed in (3.3.2), contrary to the facts observed in Kihaya, both NPs have object properties by the Passive rule diagnosis. The rational semantic interpretation of the "accusative construction" is illustrated below:

60. "OKHWA" < th Rat_{acc} >
"OKHWA ((SUBJ) (OBJ) (OBL_{loc})) "die" [*]

60.a Etthoko ela Nantto na - waa - khw - a asimuci awe.
7.house 7.dm 1.pN tm om die tm 2.family pos.
In this house Nantto is dying because of his relatives

60.b Asimuci awe Nantto na - waa - khw - a etthoko ela.
2.family pos 1.pN tm om die tm 7.house 7.dm
His relatives Nantto is dying because of them in this house

60.c Nantto na - waa - khw - a asimuci awe etthoko ela
1.pN tm om die tm 2.family pos 7.house 7dm
Nantto is dying because of his relatives in this house

60.d Nantto na - waa - khw - a etthoko ela asimuci awe
1.pN tm om die tm 7.house dm 2.family pos.
Nantto is dying in this house because of his relatives

60.e Etthoko ela Nantto asimuci awe na - waa - khw - a
60.f Asimuci awe Nantto etthoko ela na - waa - khw - a

60.g ?Etthoko ela asimuci awe Nantto na - waa - khw - a
60.h ?Asimuci awe etthoko ela Nantto na - waa - khw - a

60.i *Nantto naa - khw - a etthoko ela asimuci awe
60.j *Nantto naa - khw - a asimuci awe etthoko ela

61.a Etthoko ela Nantto naa - khw - a omuci
7.house 7dm 1.pN tm die tm 14.familyhood
In this house Nantto is dying because of relatives

61.b Omuci Nantto naa - khw - a etthoko ela
14.familyhood 1.pN tm die tm 7.house 7dm
[Because of] relatives Nantto is dying in this house

61.c Nantto naa - khw - a omuci etthoko ela
61.d Nantto naa - khw - a etthoko ela omuci

We have provided two examples in rational construction: e.g.: (60.a-j), in which the two NPs, one in gender [1], class [2.cl], asimuci "relatives" and the other in gender [-1] class (7.cl), etthoko "house/home", follow each other interchangeably after the verb.

The other example, e.g.: (61.a-d), contains two NPs, one in class [7.cl], etthoko, and the other in class [14.cl], omuci "familyhood". In either case the two postverbal nouns can "dislocate" to the right reciprocally. As for the "left dislocation" they cannot both do it at once (60.?g-h). They show a strong bond or *tension* (Guthrie (1961)) between the object marker and the radical in that they allow no intrusion of anything whatsoever between them (60.e-f). When the object cliticization is dropped the clauses become ungrammatical (60.*i-j).

Where there is no cliticization at all, as in examples (61.a-d), the ungrammaticalness does not arise from the lack of cliticization.

Insofar as contiguity is associated with objecthood, expressed by an adjacent collocation of an NP to the verb, we find that, like the case of "associative construction", the test fails.

We shall now take examples of clauses deriving from triadic verbs whose Patient/Theme theta roles are grammatically instantiated by NPs deliberately distributed in different gender classes, as in the example (62.a-f):

62.a **Juma ho - vah - a minepa ekuwo**
1.pN tm give tm 4.spirit 7.cloth
Juma gave a [piece of] cloth to spirits

Juma ho - vah - a ekuwo minepa
Juma gave a [piece of] cloth to spirits

62.b **Juma ho - m - mah - a nnela Amina**
1.pN tm 1.om give tm 1.ring 1.pN
Juma gave a ring to Amina

Juma ho - m - mah - a Amina nnela
Juma gave a ring to Amina

62.c **Juma ha - a - vah - a mwaana aletto**
1.pN tm 1.om give tm 1.child 2.guest
Juma gave a child to the guests

Juma ha - a - vah - a aletto mwaana
Juma gave a child to the guests

62.d **Mariamu ho - koh - a esariya mahumu**
1.pN tm ask tm 7.truth 6.chiefs
Mariamu asked the truth from the chiefs

Mariamu ho - koh - a mahumu esariya
Mariamu asked the truth from the chiefs

62.e Salimu ho - m - liv - a mpewe milattu
1.pN tm 1.om pay tm 1.head-chief 4.affair
Salimu paid for the affair to the head-chief.

Salimu ho - m - liv - a milattu mpewe
Salimu paid for the affair to the head-chief

62.f Nantto ho - mwa - akh - a ikole mwaapara aka
1.pN tm 1.om take tm 8.c'nut-tree 1.friend pos.
Nantto took (by force) coconut-trees from my friend

Nantto ho - mwa - akh - a mwaapara aka ikole
Nantto took (by force) coconut-trees from my friend

The examples above confirm that in the three instances where two nouns occur following the verb, without either noun being marked, e.g.: the Rational construction, the "associative construction" and the grammar of triadic verbs, word order and object NP adjacency are not defining features of objecthood in Emakhuwa.

The last instance is that of ummarked oblique function which is illustrated in the following examples:

63.a Nantto ho - n - hel - a namarico nreko
1.pN tm 1.om put tm 1.basket 5.rim
Nantto put a rim on the small basket

63.b Nantto ho - n - hel - a nreko namarico
1.pN tm 1.om put tm 5.rim 1.basket
Nantto put a rim on the small basket

64.a Nantto ho - hel - a ntthatto niminikho
1.pN tm put tm 5.mat 5.curb
Nantto has put a curb on the mat

64.b Nantto ho - hel - a niminikho ntthatto
1.pN tm put tm 5.curb 5.mat
Nantto put the curb on the mat

These examples, like the previous ones, show that immediacy in collocation of the NP with the verb is not indicative of its functional status. The criterion of immediate collocation of NPs with the verb as an indication of objecthood used by Hyman and Duranti (1980) does not therefore help us either in the case of Emakhuwa[5].

3.3.2.4 Agreement, control and constituency

It should have been observed above that agreement occurred whenever the nouns following the verb were in gender [1], classes [1/2]. In our earlier work on Emakhuwa (Katupha 1983) we found that non-subject noun verb agreement takes place if and only if the selectional restrictions of the noun are semantically perceived as belonging to gender [1][6].

Like most Bantu languages, Emakhuwa therefore exhibits a pro slot in the verb's conjugational complex. But, unusually amongst Bantu languages, the agreement between a verb and non-subject NP is different in two aspects:

(i) only nouns in gender [1], i.e., in classes (cl.1/2), can trigger agreement,

(ii) the agreement, when it occurs, does not necessarily signal objecthood in the sense that it is mapped onto the theta role theme.

Hyman and Duranti (1985) posit that a "true object agreement" takes place when:

"a noun can co-occur with a co-referential OM clitic without there being a syntactic break characteristic of right dislocation".

The examples in the previous section have shown that contiguity in the sense of immediate collocation of nouns after the verb is not indicative of objecthood, although that may be considered as the canonical order. But even where the (direct) object could be regarded as "right dislocated", that NP would be "closer" to the verb than the one immediately following it by virtue of its being incorporated into the verb's conjugational complex through cliticization. The examples in (65.a-b) illustrate this:

65. "OHITA" < ag th > "decapitate" [*]
"OHITA ((SUBJ) (OBJ) (OBL))"

65.a Nantto ho - **mwi** - hit - a **mwalakhu** elelo
1.pN tm om behead tm 1.chicken 7.today
Nantto beheaded a chicken today

65.b Nantto ho - **mwi** - hit - a elelo **mwalakhu**
1.pN tm om behead tm 7.today 1.chicken
Nantto beheaded a chicken today

The example (65.b) shows that though **mwalakhu** "chicken" has been "right dislocated" by the unmarked oblique NP elelo "today", the former is closer than the latter, for it is grammatically cliticized in the verb. Thus, "right dislocation" of the object NP in Emakhuwa does not constitute "a syntactic break" (Hyman and Duranti (1980)), any more than any other order. The reason for this is twofold:

(a) when there is an agreement, the agreement marker is closer to the verb than any other element in the clause, no matter how distantly unbounded is the NP with which it is co-referential. This means that that NP need never be considered as "right dislocated".

(b) when there is no agreement the conceptual structure of the verb provides the right reading of the clause. That is, the grammatical functions of the different NPs are distributed according to the subcategorization frames as well as to the selectional restrictions of the verb.

The observation according to which cliticization may not necessarily indicate objecthood suggests that agreement in Emakhuwa may be influenced by factors extraneous to Syntax. This amounts to suggesting that agreement may take place out of the domain of VP. This appears to be substantiated by the following facts in the examples (66.a-d):

66.a "OVAHA" < Ag Rcp th > "give"
"OVAHA ((SUBJ) (OBJ_2) (OBJ))"

Ki - ha - a - vah - a matapiisu aletto [*]
sp tm 2.om give tm 6.breakfast 2.guest
I gave breakfast to the guests

Ki - ha - a - vah - a aletto matapiisu
sp tm 2.om give tm 2.guest 6.breakfast
I gave breakfast to the guests

66.b Ki - ho - m - mah - a mpewe mwaara aka
sp tm 1.om give tm 1.king 1.wife pos
I gave the king to my wife/I gave my wife to the king

Ki - ho - m - mah - a mwaara aka mpewe
sp tm 1.om give tm 1.wife pos 1.king
I gave my wife to the king/I gave the king to my wife

66.c Ki - ho - m - mah - a mpewe asaara aka
sp tm 1.om give tm 1.king 2.wives pos
I gave my wives to the king

Ki - ho - m - mah - a asaara aka mpewe
sp tm om give tm 2.wives pos 1.king
I gave my wives to the king

66.d Ki - ha - a - vah - a asaara aka mpewe
sp tm om give tm 2.wives pos 1.king
I gave the king to my wives

Ki - ha - a - vah - a mpewe asaara aka
sp tm om give tm 1.king 2.wives pos
I gave the king to my wives

These and previous examples show us the following:

(a) class membership or gender determines cliticization (ex.: 66.a-b).

(b) Predicate argument structure determines which and how many non-subject grammatical arguments can trigger agreement, (ex.: 66.c-d). Only one grammatical argument in non-subject position may trigger agreement.

(c) Word order is not constrained by gender or class.

If class membership or gender is the determining factor in cliticization, then the agreement phenomenon in Emakhuwa must be seen as being engendered rather by the lexical properties of the noun than by the rules of syntax that bond agreement to objecthood. All the syntax does at f-structure is regulate the number of nouns which can trigger agreement. This is why we posit that neither the anaphoric nor the grammatical agreement (Bresnan and Mchombo (1987)) hypotheses may fully explain the agreement phenomenon in Emakhuwa.

3.3.2.5 Licensing factors of objecthood

None of the tests commonly applied in the determination of objecthood, viz. cliticization, markedness, adjacency to verbs, passivizability, serve to identify

uniquely the object in Emakhuwa. Both object and oblique NPs can be marked or unmarked. It appears to be the case that passivizability is possible with non-object NPs. Although typologically Emakhuwa is a configurational language, its syntax is characterized by a much less constrained collocation of its constituent NPs in the clause than, perhaps, any other Bantu language in this area. Cliticization is not a signal of objecthood.

In view of this state of affairs, this subsection has the objective of determining what it is that makes an object constituent NP distinct from other non-subject NPs, since we have already indicated that class membership determines cliticization of non-subject NPs in the verb's conjugational structure.

3.3.2.5.1 Symmetrical hierarchy between thematic roles and class and/or gender

The LFG's underlying assumption of hierarchical ordering of theta roles according to prominence as part of the verb's conceptual structure (Alsina and Mchombo (1988), Bresnan et al. (1982), Bresnan and Kanerva (1987), Alsina (1990)) has been found to be consistent with the general observations of transitivity in the Bantu languages (Hyman and Duranti (1982)). However, in the light of the Emakhuwa data, Hyman and Duranti's linking of hierarchical prominence solely to features of objecthood seems odd. If, by recognizing that morphosyntactic manifestations of objecthood are correlated with the hierarchical organization of theta roles, they accept the lexical mapping assumption that grammatical functions are directly encoded in the item's lexical entry according to the hierarchical order of its arguments, then Hyman and Duranti's view

of prominence as a morphosyntactic manifestation of objecthood is reductive. It is reductive, for, at least in Emakhuwa, morphosyntactic manifestations of prominence may be borne upon both object function and oblique functions.

Consider the examples in (67.a-c):

67.a "OTHAMA" < ag rat$_{acc}$ loc > "move"
"OTHAMA ((SUBJ) (OBJ) (OBL))" [*]

Elelo ki - na - waa - tham - a ataata etthoko
7.today sp tm 2.om move tm 2.uncle 7.house

ela
7.dm
this
Today I will move from this house due to my uncle

67.b "OVAHA" < ag rec th > "give"
"OVAHA ((SUBJ) (OBJ2) (OBJ)) [*]

Elelo ki - na - waa - vah - a ataata etthoko
7.today sp tm 2.om give tm 2.uncle 7.house

ela
7.dm
this
Today I will give my uncle this house

67.c: Elelo ki - naa - tham - a minepa
7.today sp tm move tm 4.spirits

etthoko ela
7.house 7.dm
this house
Today I will move from this house due to ghosts

We find that there is no morphosyntactic manifestation whatsoever that can serve as an index of the different

semantic interpretation of either the NP **ataata** (67.a-b) or **etthoko** (67.a-b) other than the verb's conceptual structure itself, manifested in the number of inherent arguments and in the way in which these arguments are structured. On the other hand, if we compare the NP **minepa** "ghosts" in (67.c) with the NP **ataata** "uncle" (67.a), one observes that although thematically they are linked to the same theta role, **minepa** does not trigger agreement. Thus, as far as Emakhuwa data is concerned, non-subject NPs become morphosyntactically prominent not by dint of being object, but as a combination of two hierarchical features:

(a) thematic hierarchy
(b) gender hierarchy.

Does this suggest that thematic hierarchy is a necessary but not sufficient condition? If so, is gender a necessary and sufficient condition? In other words, how are the two features blended together in order to avoid one overriding the other?

A full answer to these questions is only possible when we have analysed the role of argument adding extension morphemes in ((4.3), (4.4) and (4.5)), for it is only then that we shall have a full picture of the morphosyntactic manifestations of prominence through cliticization of non-subject NPs. At this juncture one may give a partial answer to the above questions. We could recapitulate such earlier examples as (62.a-f), (63.a-b), (64.a-b) and (66.a-d) and draw from them the point to be illustrated here. But we take the risk of being repetitive, and therefore provide example (68) whereby partial lexical entries are given to the triadic verb **ovaha** "give" under whose grammatical functions we insert nouns with varying gender or classes:

68. "OVAHA" < ag rec pt/th > "give"

	ag	rec	pt/th
(a)	NP [hum 1, anim]	NP [hum 1, anim]	NP [hum 1, anim]
(b)	NP [hum 1, anim]	NP [hum 1, anim]	NP [-hum -1, anim]
(c)	NP [hum 1, anim]	NP [-hum 1, anim]	NP [hum 1, anim]
(d)	*NP [hum 1, anim]	NP [hum -1, anim]	NP [hum 1, anim]
(e)	*NP [hum 1, anim]	NP [-hum -1, anim]	NP [hum 1, anim]
(f)	*NP [hum 1, anim]	NP [-hum -1, -anim]	NP [hum 1, anim]
(g)	NP [hum 1, anim]	NP [-hum -1, anim]	NP [-hum -1, -anim]
(h)	NP [hum 1, anim]	NP [-hum -1, -anim]	NP [-hum -1, anim]
(i)	NP [hum 1, anim]	NP [hum 1, anim]	NP [-hum -1, -anim]
(j)	*NP [hum 1, anim]	NP [-hum -1, -anim]	NP [hum 1, anim]

The corresponding morphosyntactic manifestations of these lexical insertions are shown in (68.a-j) below:

68.a Ki - ho - m - mah - a mpewe mwaara aka
sp tm 1.om give tm 1.king 1.wife pos.mine
I gave the king to my wife/I gave my wife to the king

68.b Ki - ho - m - mah - a mpewe epwittipwitthi
sp tm om give tm 1.king 7.sheep
I gave the king a sheep

68.c Ki - ho - m - mah - a khole mpewe
sp tm om give tm 1.monkey 1.king
I gave the monkey to the king
*I gave the king to the monkey

68.d *Ki - ho - vah - a nihumu mpewe
sp tm give tm 5.chief 1.king
*I gave the king to the chief

68.e *Ki - ho - vah - a epwittipwitthi mpewe
sp tm give tm 7.sheep 1.king
*I gave the king to the sheep

68.f *Ki - ho - vah - a nsurukhu mpewe
sp tm give tm 3.money 1.king
*I gave the king to the money

68.g Ki - ho - vah - a epwittipwitthi malasi
sp tm give tm 7.sheep 6.grass
I gave grass to the sheep
*I gave the sheep to grass

68.h Ki - ho - vah - a malasi epwittipwitthi
sp tm give tm 6.grass 7.sheep
I gave grass to the sheep
*I gave the sheep to grass

68.i Ki - ho - m - mah - a mpewe ncina
sp tm om give tm 1.king 5.name
I gave name to the king

68.j *Ki - ho - vah - a ncina mpewe
sp tm give tm 5.name 1.king
*I gave the king to name

From the examples in (68) it becomes clear that gender is one of the key factors that combines with other factors for a non-subject NP to trigger agreement in the verb. In (68.a-j) we provide an array of nouns in different classes that can paradigmatically be inserted under the non-subject NP constituents associated with the hierarchical positions of the verb's theta roles. Here again, it is clearly shown that the thematic hierarchy is in a symmetrical correlation with the features of the NPs. These features include:

(a) gender and/or class system of the noun
(b) nominal selectional features: NP[human/animacy]

As for gender, Emakhuwa provides two subsystems of noun classes at non-subject NP constituency, gender [1] embracing nouns in class (1/2) and gender [-1] representing other classes. Only nouns in gender [1] trigger agreement with the verb at non-subject functional position. Thus, if given two theta roles to be mapped onto two non-subject NPs, one of which was in gender [1], there would be a violation of hierarchical ordering, and therefore grammatical unacceptability if the noun in gender [-1] were to be associated with the theta role higher in the hierarchy. This is illustrated by the examples (68.d,e,f,j).

When both nouns are in the same gender as in (68.a) and possess identical restrictive selectional features, ambiguity occurs, for either noun has access to higher theta roles in the hierarchy. Ambiguity disappears if one of them has one feature less than the other, such as number.

When two nouns are in gender [1], one with the feature NP[-human], a violation of hierarchical order takes place if the latter is associated with the theta role higher in the hierarchy. This is illustrated in (68.c), where there is one reading only. This shows that the feature [+human] plays its role in the ordering of gender and agreement.

Given two nouns in gender [-1], one with the feature [+animate], there is always one interpretation that assumes that the latter be mapped onto the theta role higher in the hierarchy, as in (68.g) where there is one reading only. Otherwise, a violation of hierarchy occurs, as in (68.h), where the only reading acceptable has to be identical to that of (68.g). This completes the hierarchy in the ordering of noun classes with the thematic hierarchy in the following sequence:

69. Gender > Humanness > Animacy

Each of these features is overriding from left to right just as happens with the thematic hierarchy. That is, the same principle of default classification of theta roles that allows us to assign "the highest theta role of a verb's predicate argument structure" to the SUBJ(ect) NP (Bresnan and Kanerva (1988)) is at play in the process of nominal lexical insertion under the non-subject NPs in the Emakhuwa clause.

NPs whose lexical items are in gender [-1] are more likely to be linked with theta roles lower in the hierarchy: nouns in classes (5/6), (7/8), (14) may be inserted under oblique grammatical functions without being marked, just as they do with higher grammatical functions (ex.:67.c).

NPs whose lexical items are in gender [1] are more likely to be inserted in grammatical functions linked to theta roles higher than or equal to theme. This suggests that no NPs in gender [1] are associated with theta roles lower than theme. When this happens, there is a violation of the thematic hierarchy, as in monadic unergative verbs such as the example (67.a), or in unaccusative attributive verbs (3.2.1.1). The rational theta role grammatically expressed by **ataata** "uncle" in (67.a) triggers agreement, behaving as if it were higher than theme (see: 67.b).

In brief, gender overrides thematic hierarchy in that NPs in gender [1] associated with oblique functions, i.e., mapping theta roles lower than theme in the hierarchy, trigger agreement. Thematic hierarchy overrides gender in that that when two non-subject NPs in gender [1] with identical selectional features occur, only one can trigger agreement.

Since the higher theta roles are more prominent than the lower ones, the fact that grammatical functions encoding such higher theta roles are lexically instantiated by nouns in gender [1] suggests that gender is a form of expression of prominence. This explains why only nouns in class (cl.1/2) trigger agreement.

We found no instances where **determinedness** is instantiated by cliticization in Emakhuwa. The reading of any given order of a syntactic string in Emakhuwa is processed along the lines of gender > human > animacy. Of these three features only gender is morphologically marked in the verb. Emakhuwa is therefore a Gender oriented Bantu language.

On the other hand, given that in a given lexical form only one theta role is more prominent than the others, then morphosyntactic manifestations of prominence through cliticization cannot be borne upon two NPs in gender [1], for this would violate the biuniqueness principle. This explains why only one NP triggers agreement in the context of two or more nouns in class (1/2).

3.3.2.5.2 Grammatical co-referents or persons

Emakhuwa divides the pronominal co-referents or grammatical persons into two main subsystems, in the same way as it does with the class system, regarding the agreement that they trigger in the verb. The dividing line between those which trigger agreement and those that do not is the third (3rd) person co-referent of nouns in gender [1]. The grammatical persons in gender [1] are then specified according to whether they have selectional restrictive features organized along the hierarchical scale of [gender > human > animate], as schematically represented in (70)[8]:

70. 1st > 2nd > 3rd$_{[gen.1\ [human\ [animate]]]}$

Thus, whenever two grammatical persons are in context, the one which is associated with the theta role higher in the scale of the verb's predicate argument structure will be the one higher in the hierarchy of grammatical persons or co-referents. If both are third persons, then the one which has the restrictive selectional feature higher in the scale will be mapped onto the theta role higher in the hierarchy.

There is an asymmetrical correlation between subject and other functions in the morphosyntactic manifestation of third persons in gender [1] and gender [-1]. The 3rd grammatical person in gender [1] is realized as zero (ø) in the subject position and always cliticized in other positions. The 3rd grammatical person in gender [-1] is always subject-marked but never object-marked.

3.3.3 The subject features in Emakhuwa

Markedness, in the sense of morphological agreement between the subject NP and the verb, is the feature that we want to highlight in this section. This involves a brief discussion of the correlation between thematic hierarchy and gender mirrored in subject markedness on the one hand (3.3.3.1), and the analysis of the coreferential relationship between the subject NP and its concordial marker on the other, (3.3.3.2).

3.3.3.1 Markedness: redundancy or exponency of NP's gender and restrictive selectional features

It has been posited by Bresnan and Mchombo that "subject marker (SM) is ambiguously used for grammatical and anaphoric agreement" (Bresnan and Mchombo (1987)). Confronting this assumption with Emakhuwa data, we have found that, on the one hand, Emakhuwa verbal clauses show that the pronominal properties of (SM) are not conclusive as to which noun within the gender for which it serves as referent is to be taken as the subject. On the other hand, subject NPs without (SM) shown in the verb either need a context or have a special pro-verbal construction which indicates the noun-class or gender they belong to. In other words, the "pronominal or anaphoric interpretation" of

(SM), arising from the absence of the subject NP, satisfies the *completeness* condition only if we know by context what the noun it refers to is.

If we take the (SM) ZI- from examples (2) and (3) in Bresnan and Mchombo (1987) and give it a pronominal interpretation, as in (71):

71. Zi - na - lum - a alenje
SM past bite indic hunters
They bit the hunters

one will never know what it is that "bites the hunters" apart from the fact that it is in a class, the coreferent of which is ZI. On the other hand if we take ZI to refer to NJUCHI "bees" and construct the following clause in (72) where the (SM) ZI- is dropped:

72. *Njuchi na - lum - a alenje
Bees past bite indic hunters
Bees bit the hunters

the ChiChewa Language Board would, perhaps, consider this an unacceptable grammatical innovation. Although Emakhuwa has proverbal constructions (see: ex. 76) without SM, in this case not only would it resist the absence of the SM but it would also require an OM.

Indeed, in Emakhuwa the relationship between the subject NP and the verb is normally marked by a concordial morpheme in the predicate agreeing in gender with it (Katupha (1983)). A subject concordial morpheme only provides information about the gender and number and not about the lexical item's restrictive selectional features, such as **humanness**, **animacy** etc. which are important inputs, that taken together with the verb's transitivity properties, allow for

appropriate lexical insertion of a noun under the subject NP to be effected, thereby satisfying the *completeness* condition. Thus, whether the concordial marker is to be taken as anaphorically or grammatically linked with the subject or topic NP, it cannot be the case that its presence alone provides all the necessary information for the completeness condition to be satisfied. Indeed, even in the case where there is null concordial marker in Emakhuwa, as in the example (73), the absence of the concordial marker is interpreted by default not primarily as an indication of gender but rather as an indication of 3rd person in gender [1]:

73. Juma ø - ho - m - mah - a nnela [*]
1.pN SP tm om give tm 1.ring
Juma gave a ring [to somebody]

Given the morphonological functional convergence of 3rd [+anim] with 2nd person (sg.), which provokes a semantic collision as in (74):

74. Juma o - ho - m - mah - a nnela [*]
1.pN SP tm om give tm 1.ring
You gave Juma a ring/*Juma gave a ring
[to somebody]

this pronominal co-referential mismatch is avoided by dropping the 3rd person prefix in gender [1] leaving it with null (SM) or concordial prefix[9]. On the other hand if we take the examples in (75.a-b):

75.a M - thupi o - ho - w - a
3.cock sp tm come tm
the cock has come

75.b M - thupi ho - w - a
1.agitator tm come tm
the agitator has come

one notices that the two noun subject NPs in both clauses, although sharing the same morphological and phonological configuration, are distinct in gender, as manifested in the verb's concordial prefix. These examples serve as evidence that the (SM) must not only indicate the noun class or gender with which is bound (75), but also differentiate, by default, nouns within the same gender (74), i.e, by ruling that only 3rd [+animate] has (ø) zero (SM). In order to do this the presence of the noun is necessary, either topically or subjectively, rather than redundant. It appears therefore that there is a kind of division of labour that does not affect the biuniqueness condition in the provision of input from the noun, the restrictive selectional features, and from its grammatical coreferent, the gender, that, together, allow for the completeness condition to be satisfied.

3.3.3.2 Subject agreement, control and constituency: the status of logical and grammatical subject in some grammatical constructions

There are cases in which subject agreement in Emakhuwa is not explicit, or when grammatically explicit does not correspond to the logical subject. The former include examples of description of actions in sequence, in which only the first verb agrees with the subject NP and the others remain in the infinitive (cl.15) as in (76):

76. Nantto ho - phiy - a owaani wookoma omaala wuupuwela
    1.pN tm arrive tm 17.house sit be quiet think
    Nantto got home, sat down, remained quiet and thought

Most relevant to our research however are those cases in which the grammatical subject is not the logical one, either for reasons of discrepancy between

gender and hierarchical order of the verb's predicate argument, such as the locative construction included in what we have described as "Oblique inversion", or due to mechanisms of syntactic construction of certain types of clause, e.g.: the relative construction (3.2.3).

The discrepancy in the assignment of nouns higher in the gender class system to lower theta roles is frequent with those verbs whose predicate argument structure has as its highest theta role the Theme, as in (77):

77.a Juuma ho - mel - a ipwi mkaphwani [*]
1.pN tm grow tm 8.grey hair 18.armpit
Juma has grown grey hair under [his] armpit

77.b Juuma ho - cikuw - a esiko [*]
1.pN tm twist tm 7.neck
Juuma is twisted as for [his] neck

These examples show that following the default classification, according to which the highest theta role of a verb must be associated with the subject, the insertion of nouns in gender [1] under the subject NP mapped onto Theme is only allowed if the state of affairs described in the verb's conceptual structure somehow affects the subject itself. This, though following from the definition of Theme itself, is contradictory to the principle of Emakhuwa lexical insertion which reserves nouns in gender [1] to theta roles higher than or as high as Theme. The lexical insertion of nouns higher in the hierarchy of gender and restrictive selectional features above suggests, therefore, that those nouns are perceived either as having lost their semantic properties of *agency*, or as not being the logical subject in such clauses.

Indeed, from the principle of lexical insertion in Emakhuwa it follows that nouns in genders other than [1] are more naturally associated with theta roles lower in the hierarchy. Since the above verbs have no theta roles other than the Theme, the lower theta role is the Theme itself. If we assign the lexical items ipwi "grey hair" and esiko "neck", which are lower in gender than Juuma but somehow semantically co-referent to it, the examples above yield the following constructions:

78.a Ipwi ci - ho -(m)- mel - a (Juuma) mkaphwani
8.grey hair 8sp tm om grow tm 1.pN 18.armpit
Grey hair have grown under (Juuma['s]) the armpit

78.b Esiko e - ho -(m)- cikuw - a (Juuma)
7.neck 7sp tm om twist tm 1.pN
The neck is twisted (as for Juuma)

where the elements in () are (optional) oblique functions introduced by the "accusative construction" rule. This confirms our intuitive observations about the status of the logical subject in the examples (78) above. Indeed, Juuma is not the logical subject, but rather an oblique function of some sort that is inverted into the subject position by "subject/oblique" inversion

Similar to this is the case of relativization, in which the antecedent is not the subject of the relative clause and yet it behaves as its grammatical subject with subject co-referent in the verb, as may be observed in (79):

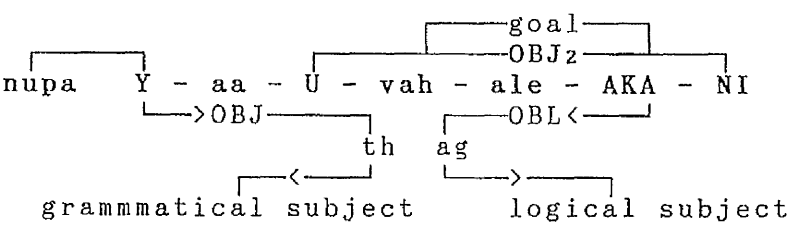
79.a mtthu ø - ki - liv - ale msurukhu horowa [*]
1.person 1sp 1sg.om pay tm 3.money went
The person who paid me money has gone

79.b mtthu ø - m - liv - ale aka msurukhu horowa
1.person 1sp 1sg.om pay tm Rs1sg 3.money went
the person to whom I paid money has gone

79.c enupa e - tek - ale aka e - ho - reer - a
7.house 7sp build tm Rs1sg 7.sp tm nice tm
The house that I built is beautiful

79.d enupa y - aa - tek - ale aka y - aho -reer - a
7.house sp tm build tm Rs sp tm nice tm
The house I had built was beautiful

The examples (79.a-d) have the antecedent agreeing with the verb. However, the antecedent NPs in the examples (79.b) and (79.d) are not the *logical* subject of the relative clause. The subject of the relative clause is expressed in the form of a possessive or genitive pronoun aka "mine"/"I". This genitive pronominal relative subject follows immediately after the relative verb, even in cases where there is a discontinuous object marker morpheme as in (80):



7.house 7sp tm om give tm Rs om
The house I had given to you (2nd person pl.)

Cases such as these pose a problem in determining whether the status of co-referentiality between NPs and their SMs is anaphoric or grammatical. In cases where both the grammatical and the logical SUBJ(ects) are marked within the verbal complex, such as the relative clause above, the absence of the subject NP co-referring with the genitive relative pronoun suggests that the possessive-like relative marker is indeed a pronoun.

Hence, it is in anaphoric agreement not with a particular lexical item, but with gender [1st.person]. The question then to ask is this: when expressed, agentive Oblique NPs are morphosyntactically marked by the morpheme ni/na "by". From their intrinsic classification as [-o], agentive oblique functions can never trigger agreement. Is the logical subject relative marker aka an oblique agentive function? Is relativization a lexical rule similar to Passivization? Although we find these questions interesting they are not within the scope of our work. All we have to observe is that relative clauses of the type above corroborate our intuitions about the Emakhuwa grammar of matrix verbs, that is, that in Emakhuwa markedness is not the only sign of obliqueness nor is agreement a sign of objecthood. In terms of variable polyadicity, this type of relative construction appears to be part of those rules which assign alternative grammatical functions to the verb's same thematic structure.

3.4 Concluding remarks

Three main aspects have been discussed in this chapter, namely, the classification of verbs according to the theta roles encapsulated in their predicate argument structures, variable polyadicity of Emakhuwa matrix verbs and the main features of Emakhuwa grammatical relations. In this exercise we have found that:

(i) Emakhuwa matrix verbs may be divided into three patterns of polyadicity: the monadic, the dyadic and the triadic matrix verbs. However this division appears to be blurred when and if the polyadicity concept is associated with the grammatical function Object. For we have found that any of these polyadicity patterns can, with certain restrictions, be subject to lexical rules

that are morphologically instantiated by extension morphemes.

(ii) The best way to divide the polyadicity patterns of matrix verbs is to take into consideration the thematic structure of the verbs. In this way we have divided Emakhuwa matrix verbs into three main groups: the ergative verbs, the unergative verbs and the unaccusative verbs.

(iii) In terms of variable polyadicity engendered by lexical rules which trigger alternative assignment of grammatical functions without affecting the thematic structure, Emakhuwa verbs may be said to be affected by two rules, namely, the relativization rule, and the oblique inversion.

(iv) We have found the rule of "accusative construction" responsible for altering thematic structures of verbs, but lacking a morphological indexation in the verb derivation similar to extension morphemes.

(v) Insofar as the main facts of the grammar of Emakhuwa matrix verbs are concerned, we have found that, although Emakhuwa is a configurational language, in the sense that it has VP as a mother node of an NP, the object NP is not as fixed as in other Bantu languages. Word order is therefore less constrained. Agreement is rather a semantic property of nouns than a manifestation of objecthood.

Given these facts about the grammar of Emakhuwa matrix verbs, we proceed to the description and analysis of the role of extension morphemes in the Emakhuwa grammar.

NOTES TO CHAPTER THREE

1. Ray Jackendoff (1987) presents a much more refined or delicate account of the predicate arguments of lexical items. Indeed he considers predicate arguments not as lexical primitives but rather as indices of conceptual structures of verbs, relating to one another in such a way that they constitute part of the meaning of the verb itself:

"My claim [..] is that the terms Theme, Agent and so on, are not primitives of semantic theory, rather, they are relational notions defined structurally over conceptual structures with a status precisely comparable to that of the notions Subject and Object in many syntactic theories (Extended Standard Theory, GB, but not LFG [...]).

"Thematic relations are not like case-markers, i.e., a system of diacritics. Rather they are a system of structural relations. The constraints on their number and type follow from whatever constraints exist on the range of conceptual functions necessary to express the meanings of verbs" (Jackendoff (1987)).

2. Bresnan and Moshi talk of these verbs as noncausative psychological verbs (Bresnan and Moshi (1990:169)).

3. Hyman and Duranti (1982) characterize this type of object as "affected possessor". We shall discuss this type of object in section (3.3.2).

4. The major features that they have scrutinized about each of these grammatical functions and that can be regarded as pervasive in Bantu languages may be summarized in the following way:

In an "unmarked sentence the subject precedes and conditions agreement on the verb. The verb is directly followed by the object. The oblique follows the object (if present) normally but not always preceded by a preposition".

5. This does not mean that Emakhuwa is a non-configurational language. Indeed, evidence has been found by Stucky (1983, 1985) that conforms Emakhuwa with most Bantu languages. That is, although there is relative freedom of collocation of NPs in a clause, Emakhuwa does not use "case marking on nouns". It is rather a configurational language, in the sense that the NP associated with the grammatical function object is a constituent within the domain of VP (Stucky (1983, 1985)).

6. Stucky (1985) claims that when a benefactive object NP is of non-agreeing gender class, the Patient/Theme may trigger agreement if it is in gender class (1/2/cl), (Stucky, 1985: pp: 144, examples: (6.a) and (6.b)):

mii ki - ho - n - thum - el - a ntenga baasikeli-ule
Pro sp tm om buy appl tm 3.messenger 1.bike dm
I bought the bicycle for the messenger

baasikeli-ule mi ki - ho - n - thum - el - a ntenga
1.bike dm I sp tm om buy app tm 3.messenger
That bicycle, I bought it for the messenger

This is alien to the author's own dialect of Emakhuwa, and from the hierarchy of factors of objecthood such as *animacy* and *humanness* I am inclined to doubt this evidence. More discussion of this is undertaken when describing the Applicative construction, section (4.3.1.1).

7. Morphosyntactic manifestation through topicalization has been found to be limited to "one NP at a time" by Stucky, ((1983), (1985)).

8. An interesting morphosyntactic manifestation of pronominal co-referents is that of split and/or *discontinuous morpheme* expressing the 2nd person plural gender [1] as may be observed in (abc):

(a) Mariamu na - WUU - vah - a - NI maasi
1.pN tm om give tm om 6.water
Mariamu will/is giving you (pl.) water

(b) Mariamu na - WUU - vah - a maasi
1.pN tm om give tm 6.water
Mariamu will/is giving you (sg.) water

(c) *Mariamu na - WUU - vah - a maasi - NI
1.pN tm om give tm 6.water om
Mariamu will/is giving you water you(pl.)

The examples (ab) differ only in number which appears to be borne upon the morpheme NI. The example (c) is not grammatically acceptable, for it tries to break the tension that exists between OM and verb radical. Except in relative constructions in which the antecedent is not the logical subject (see:(3.3.3.3.2)), NI has to be adjacent to the verb. However there is no morpheme UNI in Emakhuwa meaning: 2nd person plural gender [1] - that could be divided into:

*(Sp) - (tm) - U - (Rad) - NI.

While it is attractive to regard this as a discontinuous morpheme, it is, however, puzzling how one can account both for the biuniqueness condition and for VP constituency in this case, where two physically non-concatenated morphemes form an abstract unit by percolating their features to their mother node in a rather strange way.

9. In fact some dialects of Emakhuwa have 3rd person singular prefix for gender [1] (cl.1) that is homophonous and homotonous with 2nd person singular, requiring disambiguation from the context.

CHAPTER 4: THE GRAMMAR OF EMAKHUWA EXTENDED VERBS: ARGUMENT ADDING EXTENSION MORPHEMES

4.0 Introduction

In section (2.2.3) we established that some extension morphemes are predicative heads, that is, they index lexical rules that operate at the level of the predicate argument structures of the input verb. We established that according to whether they instantiated morpholexical rules whose effect on the verbal lexical items was to increase or to decrease the number of theta roles by one, these morphemes were of two types: **argument adding** and **argument dropping** extension morphemes. On this ground, we propose to split our investigation on the role of thematic extensions into two chapters. This chapter is dedicated to the investigation of the role of argument adding extension morphemes in the grammar.

In the light of the different patterns of verbal polyadicity established in chapter (3.0), two main aspects emerge as relevant to the investigation of each of the argument adding morphemes:

(a) the transitivizing role of argument adding extension morphemes in monadic verbs,

(b) the morphological correlation between lexical rules and theta roles.

As to the first issue, this question arises when one has to consider the grammatical mapping of the theta roles introduced into the thematic structure of both unergative and unaccusative verbs. Given that unergative verbs are structurally such that they do not

have theme in their predicate argument structure, and that unaccusative verbs lack the theta role agent, we need to ask whether the roles introduced by argument adding extension morphemes into such patterns of verbal polyadicity are grammatically mapped onto the same functions as those with other inherently transitive matrix verbs.

To provide a satisfactory answer to this question, we investigate in this chapter the restrictions imposed on the extension morphemes occuring with the different patterns of verbal polyadicity in the grammar.

The second issue is intimately related to the first, and is theoretically motivated. The theory of lexical Mapping posits that theta roles are related to one another hierarchically (see 1.2.2.1). It could be assumed therefore that the lexical rules morphologically instantiated by the thematic extension morphemes reflect this hierarchy in such a way that the mapping of one particular morpheme onto a particular theta role can be predicted in a straightforward way.

We found however, that there is no one-to-one correspondence between argument adding extension morphemes and theta roles. Instead, the following was observed:

(a) Morphological convergence of different theta roles, e.g.: the Applicative rule, morphologically indexed by the morpheme -ela (4.1)), introduces an array of "applied" theta roles.

(b) Morpho-syntactic convergence of theta roles, i.e., theta roles as different as Beneficiary, Experiencer/Goal and sometimes Patient, are morphologically indexed by the same morpheme -ela and grammatically assigned to the same grammatical function, e.g.: (OBJ_2).

In this connection, it may be helpful to introduce Jackendoff's concept of division of thematic roles into tiers, (Jackendoff (1987)):

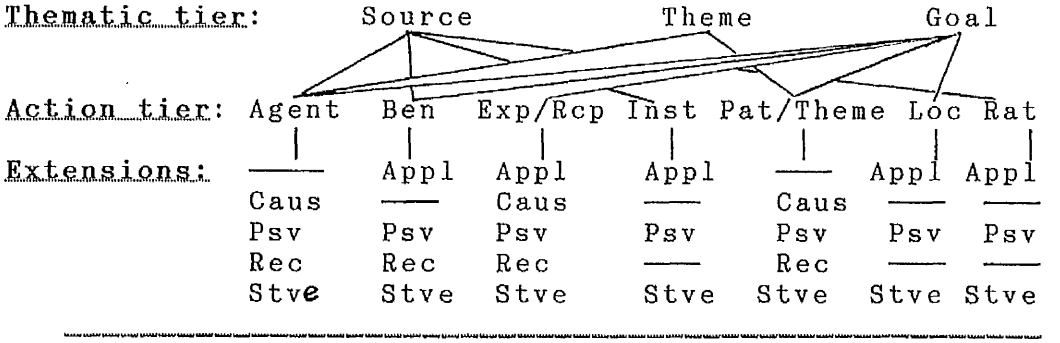
(a) the *"thematic tier"* which is more abstract and concerns the *"motion"* and the *"location"* of the object,

(b) the *"action tier"*, which is more concrete, and is concerned with an *"action-event"*.

In these terms, we might suppose that the lexical rules operate directly on the "action-tier", in the sense that the grammatical function mapping of theta roles corresponds to the thematic hierarchy of the input verb, e.g.: the Applicative in polyadic verbs (4.2.1.2), (4.2.1.3), and only indirectly or abstractly on the "thematic-tier", in the sense that the grammatical interpretation of the lexical rules is processed in the light of, or by reference to, the "action-tier" e.g.: the Applicative in unergative and unaccusative verbs (4.1.2.1).

The correlation between the two tiers is shown in Table (4.1):

Table 4.1. Correlation between thematic and action tiers and the place of thematic extension morphemes:



Where:

(a) the arrows from action-tier to thematic-tier or conversely are meant to suggest that there is a convergence of semantic roles in one single grammatically interpretable theta role;

(b) the theta roles on the action-tier are headings beneath which there is a list of thematic extensions which morphologically index rules affecting the theta roles indicated.

For example, the agent may be conceptually:

(i) a Source in such verbs as **ovaha** "give"
(ii) a Goal in such verbs as **waakhela** "receive"
(iii) a Theme in such verbs as **orowa** "go"

The benefactive may be conceptually perceived as introducing:

(i) a beneficiary in such verbs as **okoha** "ask"
(ii) a goal/source in such verbs as **omeya** "divide" or **waakha** "take from"

This suggests that at the level of "thematic-tier" there may be several conceptual distinctions of theta roles whose morphological and grammatical correlation is however less distinctive at "action-tier". Hence, theta roles such as Beneficiary, Goal and Source are grammatically instantiated by (OBJ_2), and the lexical rule which introduces each of them is indexed by one single morpheme.

This lack of one-to-one correspondence between extension morphemes and the different theta roles may possibly be what Bresnan considers as independence between semantic arguments and grammatical arguments (Bresnan (1982)). Indeed, as we shall observe in due course, argument adding lexical rules conform to the

Function-argument biuniqueness condition in the sense that no matter what number of theta roles higher than Theme there are in a given verb, there is only one that can be realized as the object with the properties of triggering cliticization.

In the investigation of this aspect we concentrate on the grammatical relations deriving from the rules indexed by the morphemes, making reference whenever possible to the amalgamation processes thereby involved.

In brief, the study of the role of extension morphemes in this chapter involves two steps:

(i) an analysis of the restrictions on the application of lexical rules in both transitive and intransitive verbs;

(ii) an analysis of the status of the grammatical relations obtaining from the application of a given lexical rule, involving the following aspects:

(a) the status of SUBJ(ect) and the extended verb,
(b) the grammatical behaviour of non-subject NPs, e.g., agreement, object deletion, adjacency and word order, and, in passing, passivizibility.
(c) the interaction of these syntactic facts

This will be carried out with reference to the different syntactico-semantic fields introduced by the argument adding extension morphemes known as Applicative (4.1), Causative (4.2), and Reciprocative (4.3).

4.1 The Applicative Constructions in Emakhuwa

One of the lexical rules whose morphological index amalgamates a battery of thematic roles is conventionally known as the Applicative. The theta roles introduced by this rule are morphemically indexed by the suffix { **ELA** } which may, according to the phonological environment, be allomorphemically realized either as:

-ela or -era (see 2.2.1.3).

4.1.1 Syntactico-semantic fields

Bresnan and Moshi regard -ELA as expressing a single unitary lexical rule which introduces the "applied" object having the thematic roles of:

(a) beneficiary or maleficiary
(b) goal or recipient
(c) instrument
(d) location or motive

"depending on the semantics of the base verb" (Bresnan and Moshi (1990)).

This suggests that the theta role introduced by the Applicative rule is a variable ranging over a set of possible θ-roles such that for any given matrix verb only one thematic value will be assumed by the added argument.

This seems dubious in at the very least, semantic properties displayed by the added argument, such as animacy, must help to determine the role. And as we shall see in (4.1.4), the possibility in Emakhuwa of two successive applicative morphemes each introducing an additional role, renders the position untenable.

We conventionally describe these different values of the applicative morpheme as syntactico-semantic fields[1], some of which are exemplified in (1.a-c):

1.a [OTEKA][ELA] ——> "OTEKELA" "build"

< ag ben$_{appl}$ th >
| | |
((SUBJ) (OBJ_2) ø) [T8]

Meelo k - a - tek - el - eke amunna akina ayo
tomorrow sp 2.om build appl tm 2.brother other dm
Tomorrow I shall build (a house) for the other brother of mine

1.b [OPHWANYA][ERA] ——> "OPHWANYERA" "obtain/find"

< ag inst$_{appl}$ th >
| | |
((SUBJ) (OBJ_2) (OBJ)) [T10]

Nyu mooneke ohikhale opuheriya, miteko cinci
pron see not be enjoyed 4.work 4.many
See how exploited we are, [there is so] much work

ci - hi - n - phwany - er - a ehu etthu
4.Rm ng tm find appl tm Rs 7.thing
with which we don't get anything.

1.c [OTHUMA][ELA] ——> "OTHUMELA" "buy"

< ag th rat$_{appl}$ >
| | |
((SUBJ) (OBJ) (OBL))" [T2]

Ki - thum - el - ale - ni ala maaci ala ...
sp buy appl tm pron. 6.dm 6.water 6.dm
Why have I bought this water?

The following section is designed to discuss the different syntactico-semantic fields of the rule of Applicative against the background of the different patterns of polyadicity.

4.1.2 The Applicative rule and variable polyadicity

The Applicative rule is postulated in terms of the Lexical mapping theory as follows:

"The effect of the applicative morpheme is to apply the action of the verb with which it combines to a new participant, which is benefited, utilized, involved as a location, etc. In addition to introducing a new theta role, the applicative morpheme involves a relation between a patient and an event, and this patient is fused with the thematic role introduced" (Alsina (1990) my emphasis).

According to Alsina and other proponents of the lexical mapping theory ((Alsina (1990), Alsina and Mchombo (1988), Bresnan and Kanerva (1987), (1990), Bresnan and Moshi (1988)), there are two essential facts in the application of the Applicative rule:

(a) introduction of a theta role,
(b) fusion of the theta role patient with the thematic content of the new theta role.

These facts have at least one restriction, about which Alsina (1990:pp.12) makes the following assertion:

"Notice [that there is] a limitation on the role that is fused with the patient: it cannot be the highest thematic role."

In fact Alsina and Mchombo (1988)[2] even posit that the role introduced by the applicative must occupy the hierarchical position immediately below the highest theta role in the thematic hierarchy of the input verb's predicate argument structure.

On this basis, Alsina (Alsina (1990)) predicts that:

"when the top thematic role is potentially agentive, the possible applied arguments include beneficiary, instrument and locative, since they are lower than the agent, but when the top thematic role is a theme, the beneficiary and instrument do not constitute possible applied arguments as they would be hierarchically higher than the existing top thematic role" (my emphasis).

What follows is an attempt to scrutinize the predictions put forward by the theory of lexical mapping about the Applicative construction in Emakhuwa. In order to achieve this, we recapitulate the classification of verbs according to polyadicity as effected in section (3.2).

4.1.2.1 The Applicative rule and the monadic verb

In (3.2.1.1) we have made a list of four different conceptual groups of monadic verbs : verbs of motion, verbs describing physical or mental states, attributive verbs and climate related verbs. According to whether the highest theta role of these verbs was perceived as agent or theme we divided these verbs into two main groups, namely, unergative and unaccusative verbs.

Unergative matrix verbs have a convergence of semantic functions in their highest theta role, (see (3.2.1.1)). That is, the highest theta role of these verbs is simultaneously the agent, in the sense that it is the *actor* and the theme, in the sense that it is the *object in motion* (Jackendoff (1987)). However, in terms of the rule of Applicative, it appears that this rule is sensitive to the argument structure of the verb rather than to the convergence of semantic roles.

The Lexical Mapping predicts that the rule of the Applicative cannot have an applied object with the reading of beneficiary or instrument in unergative matrix verbs, in spite of having an agent theta role. Since the Applicative rule involves a **"relation between a patient and an event, and this patient is fused with the thematic role introduced"** (Alsina (1990)), and given that unergative verbs lack the theta role

patient/theme and that the theta role introduced by this rule must be immediately lower in the hierarchy than the highest role of the input verb, then the theta role introduced by the applicative rule in unergative matrix verbs must be perceived as theme. Although Alsina's formulation of the Applicative rule appears problematic in its notion of "fusion", it suggests that beneficiary reading of the applicative rule requires theme/patient. This appears to be the case in Emakhuwa. A good sample illustrating this is the applied unergative matrix verbs owa "come" and orowa "go" in (2.a-b) and (2.c):

2. [OWA][ELA] < ag rat$_{appl}$ loc > --> OWEELA "come"
   "OWEELA ((SUBJ) (OBJ) (OBL)) [T2]

2.a **Yoolya ela ela yamala ela mw - a - we - el - e**
7.food 7.dm dm if finished dm sp tm come appl tm
This very food if finished come for it

vaava
16.loc.
here [i.e., come and get it here].
***come on behalf of the food.**

2.b **Va k - aa - we - el - ale ekori va** [T8]
16.dm sp tm come appl tm 7.bed 16.dm
Now I have come for the bed [i.e., I have come to take the bed]
***I have come on behalf of the bed**

2.c [OROWA][ELA] < ag rat$_{appl}$ loc > "go"
"OROWELA ((SUBJ) (OBJ) (OBL))"

Nka - row - a w - aa - row - el - e atithiyana
Imperat.go tm sp 2.om go appl tm 2.girls
Go, go for the girls

omuro n'wo [T8]
17.river 17.dom
to the river (Go to the river and bring the girls)
***go to the river on behalf of the girls**

where one may observe that:

(a) the beneficiary interpretation is out of the question
(b) the argument introduced by the Applicative rule has the grammatical interpretation identical to theme, triggering cliticization where possible, e.g.: (2.c).

Since the unergative matrix verbs **owa** "come" and **orowa** "go" lack the theta role of theme/Patient, the Rational theta role introduced must be grammatically interpreted as the Patient/theme. This amounts to admitting, contrary to Alsina and Mchombo's claim (1989), according to which the Applicative cannot affect the theta role theme, that "applied" theta roles may, in certain patterns of verbal polyadicity, e.g.: unergative verbs, be mapped onto the grammatical function object. And this does not sound bizarre, for it is in accordance with Bresnan's predictions in the theory of complementation (Bresnan (1982)), where she writes:

"unlike the semantically restricted functions, the semantically unrestricted functions SUBJ, OBJ and OBJ2 may be paired with any argument type or remain unpaired with an argument (as in the case of "non-logical subjects"). There are nevertheless important constraints on their assignment to lexical forms. In particular, there appears to be a **hierarchy for the assignment of SUBJ, OBJ and OBJ2 to predicate argument structures: in the unmarked case, OBJ2 is assigned only if OBJ has been assigned, and OBJ if SUBJ has been**" (my emphasis).

Unaccusative verbs have neither beneficiary nor instrumental readings in Emakhuwa. This follows from the theory of lexical mapping on the rule of Applicative. The highest theta role of Unaccusative verbs is theme. Hence the only theta roles that can be introduced into unaccusative verbs must be hierarchically lower than theme.

We have found, however, that attributive verbs appear to contradict this position as may be observed in (3):

3. [OCIVA] < th > "be tasty/pleasant"
"OCIVA (SUBJ)"

(a) **Imanka ci - naa - civ - a** [*]
8.mango sp tm please tm
Mangoes are tasty

Accusative Construction:

[OCIVA] < th exp_{acc} >
"OCIVA ((SUBJ) (OBJ))"

(b) **Imanka ci - naa - ki - civ - a** [*]
8.mango 8.sp tm 1.om please appl tm
Mangoes are tasty to me (I like mangoes)
(physical/contactive pleasure)

Applicative Construction:

[OCIVA][ELA] < th go_{appl} >
"OCIVA ((SUBJ) (OBJ))"

(c) **Imanka ci - naa - ki - civ - el - a** [*]
8.mango 8.sp tm 1.om please appl tm
I like (fancy/long for) mangoes

The difference between the accusative construction and the applicative construction is better highlighted by the fact that, while in the accusative construction of unaccusative verbs no locative NP can stand for the subject of the verb, in the applicative construction this is possible:

4.a ***WaMphula o - naa - ki - civ - a** [*]
17 Nampula 17sp tm om pleasant tm
*In Nampula is tasty to me: *experiencer

But,

4.b WaMphula o - naa - ki - civ - el - a [*]
17 Nampula 17sp tm om pleasant appl tm
In Nampula is pleasant for me.

The most important issue here is the fact that the theta roles introduced by either accusative or applicative construction trigger agreement as though they were higher than theme. These examples appear to counter the predictions of the theory of lexical mapping, inasmuch as locatives are hierarchically lower than theme. In this regard, Bresnan and Kanerva (1990) re-interpret Foley and Valin's "arguments for a thematic hierarchy in which locative is above theme" (1984). They propose to split Foley and Valin's broad concept of locativity into abstract and concrete locatives, the abstract locative being hierarchically higher than theme and the concrete locative remaining at the bottom of the thematic hierarchy. Hence, according to Bresnan and Kanerva, the attributive verbs in Emakhuwa would have an abstract locative, in the sense that it is associated with the theta role Goal. However plausible this proposal may be, one has still to see the correct and economically viable formal representation of these facts accommodated within the theory of lexical mapping.

In brief, the applicative rule in monadic verbs cannot have theta roles interpreted as beneficiary and/or instrument.

With primitive unergative verbs the applicative rule introduces a theta role akin to theme and in unaccusative attributive verbs it introduces an abstract locative role higher than theme.

Other theta roles that may be introduced by the Applicative rule in unergative and unaccusative verbs are the locative and the rational.

The locative:

Since most unergative verbs have a conceptual structure which contains the notion of location, the locative interpretation of the "applied" theta roles in these verbs is usually "directive" or "directional" object:

5.a [OTUPHA][ELA] < ag loc_{appl} > "jump"
"OTUPHELA ((SUBJ) (OBJ))" [T3]

Khwah khwah otthawa, omuro khurruuh o - tuph - el - a
ideop ideop 15.run 17.river ideop sp jump Appl tm
He quickly dashed to the river and jumped into it.

5.b [OKHUMA][ELA] < ag loc_{appl} > "get out"
"OKHUMELA ((SUBJ) (OBJ))" [T1]

Wiiriya khuli ki - khum - el - e ota n'we.
It was said oh no! sp get out Appl tm 17.out dm
He said: oh!, let me go outside

5.c [OHAPUWA][ELA] < ag loc_{appl} > "turn"
"OHAPUWELA ((SUBJ) (OBJ))" [T8]

Eneeriya ni - hapuw - el - e ela etthoko ela ela
He said sp turn Appl tm dm 7.house dm dm
He said: Let us turn to this house

5.d [WAAKUVA][ELA] < th loc_{appl} > "dash"
"WAAKUVELA ((SUBJ) (OBJ))" [T7]

n - a - akuv - el - e wu w - aa - khal - a
sp tm dash Appl tm 17.there Rm tm live tm
Let us dash towards there where the poor man

awe masikhini
Rs 1.poor
was living

As (5.c) shows, the "applied" locative or directive object may not necessarily be lexically instantiated by a locative NP. In this sense it may be claimed that the location feature of the "applied" locative does not necessarily require a locative NP to be mapped with. Hence, the locative NP is instantiated in these constructions as part of the noun class system and not as an expression of obliqueness. Indeed, (5.c) could be lexically instantiated by a NP in gender [1]:

5.e **Eneeriya n - a - hapuw - ele ala atthu ala**
He said: sp 2.om turn appl 2.dom 2.people 2.dm
He said: let us turn to these people

This shows how the roles introduced by the applicative rule are re-interpreted in unergative and unaccusative verbs.

The rational:

As demonstrated earlier, the rational "applied" object is grammatically interpreted as theme.

6.a [OWA][ELA] < ag rat_{appl} > "come"
"OWEELA ((SUBJ) (OBJ))" [T2]

Paapa k - aa - we - el - ale mruku
pN sp tm come APPL tm 3.wisdom
Father, the reason I came for is wisdom

m - ki - rukul - el - e m - ki - vah - e
sp om pick App tm sp om give tm
pick one for me and give it to me

6.b [OMAALA][ELA] < ag rat_{appl} > "be silent"
| |
"OMAALELA ((SUBJ) (OBJ))" [T10]

Enkhala enyu toko athiyana
Rm be Rs like 2.woman
You behave like women (do)!

ori vayi oonlamwalamwela oyo va
cp int.pron gp+15 bother dem loc
what is he for you to bother about him

e - hi - m - maal - el - a enyu esiyani?
Rm ng tm silent Appl tm Rs 7.Int. pron.
why don't you keep quiet?

6.c [OCIKUWA][ELA] < th rat_{appl} > "get twisted"
| |
"OCIKUWELA ((SUBJ) (OBJ))" [T3]

... **khucikuwaka esiko ele e - n - cikuw - el - a**
and twisted 7.neck 7.dm 7sp tm twist Appl tm
and he got his neck twisted the reason why it got

o - n - nukh - ery - a
sp om stink Appl tm
twisted was because there was a bad smell for him

4.1.2.2 The Applicative rule and the dyadic verb

Dyadic verbs may have all the different theta roles instantiated by the Applicative rule. Although in some cases it is difficult to discern Beneficiary object from Goal for reasons of morphosyntactic convergence between these two roles, there is copious evidence in Emakhuwa that militates for a distinction to be made between them[3]. Compare the examples (7.a-b) with those in (8.a-b):

7.a [OTTHUKA][ELA] < ag ben_{appl} th > "tie" [*]
| | |
"OTTHUKELA ((SUBJ) (OBJ_2) (OBJ))"

Nantto ha - a - tthuk - el - a epuri ataata awe
pN tm 2.om tie Appl tm 7.goat 2.uncle pos
Nantto has tied up the goat on behalf of his uncle

7.b [OPAHA][ELA] < ag ben$_{appl}$ th > "burn" [*]
"OPAHERA ((SUBJ) (OBJ_2) (OBJ))"

Juuma ha - a - pah - er - a ataata awe mooro
pN tm om burn Appl tm 2.uncle poss 3.fire
Juuma has lit fire for his uncle

8.a [OHIMYA][ELA] < ag go$_{appl}$ th > "say"
"OHIMERYA ((SUBJ) (OBJ_2) (OBJ))" [*]

Mariaamu ho - m - hime - ery - a mwaana esiiri
pN tm om say Appl tm 1.child 7.secret
Mariamu told a secret to the child/!*for the child

8.b [WAAPEYA][ELA] < ag ben/go$_{appl}$ th > "cook"
"WAAPEELA ((SUB) (OBJ_2) (OBJ))" [*]

Mariaamu ho - mwa - ape - el - a mwaana mahaaca
pN tm 1om cook appl tm 1child 6porridge
Mariaamu has prepared porridge on behalf of/for the child

It seems more adequate to refer to examples (7.a-b) as having the reading of beneficiary than the examples in (8.a-b). A third group of dyadic verbs whose benefactive theta role has the reading of a source or goal is the following:

8.c [WIN'YA][ELA] < ag go/so$_{appl}$ th > "steal"
"WIN'YERA ((SUBJ) (OBJ2) (OBJ))" [*]

Mariamu ho - mwi - in'y - er - a mwaana mkatthe
pN tm om steal Appl tm 1.child 3.bread
Mariamu has stolen bread for/from the child

Possible contexts in which what we have classified as dyadic verbs of perception or psychic verbs could occur with the Applicative and have the beneficiary reading are rare:

8.d [WOONA][ELA] < ag benapll th > "see"
| | |
"WOONELA ((SUBJ) (OBJ2) (OBJ))" [*]

Mwaphiya owaani mw - a - ko - on - ele
when get 18.home sp tm 1.om see appl
When you arrive home [please go and] see

asaana aka
2.children possessive
my children for me

The reason why this is so appears to be related to the fact that the subject is perceived semantically as an experiencer rather than a true agent. This could justify the existence of verbs, in Emakhuwa, whose highest theta role is *Experiencer*. Since by the Applicative rule the benefactive theta role is immediately lower than the agent, the fact that these verbs admit no beneficiary reading of the applicative rule suggests that the Experiencer role is lower than the benefactive.

The concept of "applied" object used in this survey, that is semantically interpreted as the "Instrumental" is the counterpart of the one which is morphosyntactically expressed by an **ni+NP** Instrument object in non-derived verbs[4]. Examples of theta roles introduced by the Applicative construction which are interpreted as Instrumental applied object in dyadic matrix verbs are less restricted than those of beneficiary reading. Here are some examples taken from the data:

9.a [OPHWANYA][ELA] < ag $inst_{appl}$ th > "find"
| | |
"OPHWANYERA ((SUBJ) (OBJ_2) (OBJ))" [T_{10}]

Miteko ciinci ci - hi - m - phwany - er - a ehu
4.job 4.adj Rm ng tm find Appl tm Rs
Many jobs with which we get nothing

etthu
7.thing

9.b [OTHUMA][ELA] < ag inst$_{appl}$ th > "buy"
"OTHUMELA ((SUBJ) (OBJ$_2$) (OBJ))" [T7]

So enoota ni esinku ela ela ohihala
But 7.penny cp 7.halfpenny 7.dm 7.dm AUX
However, this penny and half do not stay and

o - thum - el - a ephaawu o - khuur - a.
sp buy Appl tm 7.bread sp eat tm
buy bread with it and eat.

9.c [OCUWELA][ELA] < ag/exp inst$_{appl}$ th > "know"
"OCUWELELA ((SUBJ) (OBJ2) (OBJ))"

Ni yenani vale ahaana mruku awe [T9]
And pro.he 16.dm had 3.wit pos
However he himself had his own wit

o - n - cuwel - el - a awe
Rm tm know Appl tm Rs
with which he grasped (things very easily)>

Examples of directive or locative "applied" objects occur with dyadic verbs, but unlike with monadic verbs, locative "applied" objects are grammatically instantiated as OBL(ique), due to the type of predicate structure of the input verb. Here is an example taken from our data :

10. [ORIHA][ELA] < ag th loc$_{appl}$ > "throw"
"ORIHELA ((SUBJ) (OBJ) (OBL))"

... **ekopo eyo a - rih - el - ale vale**
7.stick 7dm sp throw Appl tm 16.dm
He threw the stick over there

Examples of Rational "applied" object occurring with dyadic matrix verbs recorded from our data include the following:

11.a [WINVA][ELA] < ag th ratappl > "kill"
"WINVA ((SUBJ) (OBJ) (OBL))" [T5]

Soone aka ti no - ki - inv - el - a awe paahi
1.tobacco poss cp tm om kill Appl tm Rs part
It is my tobacco, that is the only reason that he is killing me for

11.b [OTHIKILA][ELA] < ag th ratappl > "cut"
"OTHIKILELA ((SUBJ) (OBJ) (OBL))" [T5]

Wiiriya min mkhu aka ola o - ki - thikila
He said: I 1.mate poss 1.dm sp 1.om cut
He said: this friend of mine has cut me

o - ki - thikil - el - a soone aka
sp 1.om cut Appl tm 1.tobacco poss
he has cut me because of my tobacco

Uuuhnm! min a - ki - n - thikil - el - ale soone...
No! I ng sp om cut Appl tm 1.tobacco
Nonsense! I did not cut him because of his tobacco.

The examples of the applicative rule on dyadic verbs introduced above have indicated the following facts:

(a) There is a semantic convergence in the theta role Benefactive which makes it cover semantic roles such as goal, source etc. Given that some verbs give preference to an interpretation of Benefactive "applied" object as Source, and others give preference to an interpretation as Goal, it is suggested that a distinction be made at the level of thematic structure between the theta roles Beneficiary, Goal and Source, in spite of their morphosyntactic convergence.

(b) Dyadic verbs of perception do not usually accept the beneficiary reading of the applicative rule. This evidence allows us to form a special group of verbs, which we have termed the experiencer group of verbs. The fact that they do not accept the benefactive role shows that the highest theta role of their predicate argument structure is lower than agent.

4.1.2.3 The applicative rule and the triadic verb

In section (3.0) we posited that the maximum number of inherent predicate arguments that a matrix verb can hold in Emakhuwa was three, including the subject. The facts relating to cliticization and object restrictiveness in the Applicative construction with triadic verbs (4.1.3) and the restrictions of the applicative extension within triadic verbs (4.1.4) appear to vindicate not only this observation, but also suggest that this is a general feature of all verbs. This does not mean that there may not be more than three inner roles introduced by lexical rules. However, as we shall see in example (16), unless one of the theta roles is assigned to a null (ø) lexical NP, such cases are usually ruled out from the biuniqueness condition due to *object loading*.

We found that applied locative objects can never occur within triadic verbs. The reason behind this follows from the generalization of the applicative itself. Given that triadic verbs have an agent theta role and two "inner" theta roles, Goal and Theme/patient, the only "applied" object higher than the Goal and lower than the agent left is the Beneficiary. Other roles to be introduced by the applicative are only possible if one of the "inner" roles is omitted or, if present, becomes restricted. In the case of the locative there is no way that it can be introduced by the applicative rule, even assuming that the beneficiary is omitted. This is due to the fact that the already existing Goal within the triadic verbs exhausts, so to speak, the thematic content of the locative role[5]. Thus the example (12):

12. *Ataata a - no - vah - er - a esatakha
2.uncle sp tm give appl tm 7.prayer
My uncle offers prayers

vamwaakoni
16.mountain
on the mountain [*]

is ungrammatical, for the applicative morpheme does not introduce the locative vamwaakoni "on the mountain" but something else which is not overtly expressed and ought to be. The grammatically acceptable version of (12) would be as in (13):

13. Ataata a - no - vah - a esatakha vamwaakoni [*]
2.uncle sp tm give tm 7.prayer 16.mountain
My uncle offers prayers on the mountain

where the locative vamwaakoni is an adjunct and does not need the applicative morpheme.

Rational applied objects in triadic verbs have not been recorded in our data. Like the locative, the rational applied role in triadic verbs is restricted. The examples below are drawn from the author's own intuitive knowledge of the language:

14. Juuma no - mwa - akh - el - a mwaana mwaalo
pN tm 1.om take Appl tm 1.child 3.knife
The reason why Juuma is taking the knife away from

omaati [*]
14.danger
the child is danger

Instrumental "applied" objects may be introduced by the Applicative rule into any triadic verb as long as one of the "inner" theta roles is not lexically instantiated:

15 [OSILEPELA][ELA] < ag rec inst$_{appl}$ th > "ask"
'"OSILEPELELA ((SUBJ) ø (OBJ$_2$) (OBJ))"

... **aano - si - khal - a mwaatoosu pi ye - er - a aka**
tm asp be tm 1.penny cp Rm do tm Rs
there was a small penny that I wanted to go

k - a - si - m - lepel - el - ele mwaanttapwatta
sp tm asp om ask Appl tm 1+5.small cloth
to ask for a small piece of cloth

ni asimaakha [T10]
cp 2+6. bit of salt
and a bit of salt

Examples of the beneficiary reading of the applicative rule are more clearly discernable within the triadic verbs for these verbs have the theta roles of Goal and Theme. Since the applicative rule involves "a relation between an event and a Patient theta role" (Alsina (1990)), and given that the triadic verbs already have the theta role Patient, it follows that either the role introduced by the applicative becomes redundant or Alsina's formulation of the Applicative rule as involving a Patient role is too reductive. Whatever the inaccuracy involved in Alsina's formulation of the Applicative rule may be, the fact of the matter is that in Emakhuwa, the beneficiary reading is confused neither with the theta role goal nor with Patient.

In our data, however, we found not a single example of a beneficiary reading with triadic matrix verbs in which the theta role recipient is present. This may be due to the fact that only two "inner" roles are grammatically expressable for every verbal lexical item. The examples provided below are drawn from the author's own intuitive knowledge of the language and are an illustration of what we describe as "object loading", i.e., some theta roles are grammatically

unmarked due to the presence of another function higher in the hierarchy. Given that two patient-like theta roles are restricted in these constructions, the biuniqueness condition is violated. Hence these constructions are generally avoided:

16.a [[OKOHA][ELA]] < ag benappl so th > "ask"
"OKOHERA ((SUBJ) (OBJ_2) (OBJ) (OBJ))" [*]

?Nantto ho - m - koh - er - a mwaana mpewe esariya
pN tm om ask Appl tm 1.child 1.king 7.truth
Nantto asked the king the truth on behalf of the child

where the agreement marker does not refer to **mpewe** "the king" (the recipient) but rather to **mwaana** "child" (the beneficiary). The grammatical function OBJ(ect), mapped onto theme and recipient, becomes restricted or grammatically invisible in these cases, as may clearly be observed in (16.b) and in (20):

16.b [OVAHA][ELA] < ag benappl rec th > "give"
"OVAHERA ((SUBJ) (OBJ_2) (OBJ) (OBJ))"

Zeena ho - ki - vah - er - a esukuti amaathi
pN tm 1.om give Appl tm 7.dress 2motherinlaw
Zeena gave my mother-in-law the dress for me

The description of the behaviour of the applicative rule in the different patterns of verbal polyadicity has provided the following linguistic facts:

(i) the role of the applicative rule in monadic verbs is different from the one it has in polyadic verbs. While in polyadic verbs the applicative rule does not affect the theta role theme, in monadic unergative verbs it introduces a theta role which is perceived as theme. In unaccusative attributive verbs the theta role introduced by the applicative rule contradicts the generalizations of the applicative rule, inasmuch as the grammatical function onto which it is mapped shows object marking.

(ii) Through the applicative rule we found a special group of dyadic verbs whose highest theta role is experiencer. These verbs do not allow the beneficiary reading of the applicative rule.

From the grammatical point of view, however, it appears that the linguistic facts found in monadic verbs are expressable in much the same way as, or by referring to, the kind of grammatical relations prevailing in polyadic verbs. The following section undertakes the analysis of the grammatical relations obtaining from the morpholexical operations of the applicative rule.

4.1.3 The grammar of Applicative constructions

It has been shown in section (3.3.2) that the syntactic manifestations of non-subject NPs attributed to features of objecthood in other Bantu languages, such as adjacent collocation with the verb, agreement, passivizability etc., were not exclusive to the object in Emakhuwa. In Emakhuwa any non-subject NP in gender [1] may be cliticized. Emakhuwa also shows a high freedom in syntactic collocation of its syntactic functions, passivizibility of virtually any grammatical argument, including non-subcategorized ones, and a peculiar kind of restriction on object agreement.

In this section our analysis concentrates on object marking and word order and the applicative constructions. In order to achieve this, the theory of lexical mapping as sumarized in (1.2.3) is used. In particular, we assume with the theory of lexical mapping that the principle of intrinsic classification operates cyclically. On this assumption, the theory of lexical mapping postulates that the objectlike theta

roles "internalized" by transitivizing processes such as the Applicative rule, must be assigned the intrinsic classification (IC) of [-r] as the "inner" theta role patient/theme is.

4.1.3.1 Object marking and Applicative constructions

As shown in (3.3.2), in Emakhuwa only NPs in gender [1] are cliticized in non-subject position. In this section we narrow down our area of investigation on cliticization to NPs introduced by the applicative rule[6]. Our discussion will concentrate on dyadic and triadic verbs, that is, on examples in which the adding of a new role to the argument structure of a verb by the applicative rule yields two or more NPs in non-subject position.

The examples (8.a) and (8.c) in (4.1.2) are recapitulated here as (17) and (18), and subjected to the morpholexical operations of the applicative engendering the Beneficiary or Recipient role.

Applicative: ø ⇓ < θ ... θ_{appl} ... >

17.a	[OHIMYA][ERA]	<	ag	rcp	th	> "say"
	IC:		[-o]	[-r]	[-r]	
	dft.		[-r]			
	F.U.		S	S/O	S/O	
	W.F.		*S	O	O	

or:

17.b	[OHIMYA][ERA]	<	ag	rcp	th	> "say"
	IC:		[-o]	[-r]	[+o]	
	dft.		[-r]		[+r]	
	F.U.		S	S/O	Oθ	
	W.F.		S	O	Oθ	[T7]

17.b **Mpewe o - hi - m - him - ery - e co woothiya**
1.king sp ng 1.om tell appl tm 8.gp 15.lies
Do not tell lies to the king

18.a [WIN'YA][ERA] < ag ben/so pt > "steal"

	ag	ben/so	pt
IC:	[-o]	[-r]	[-r]
dft.	[-r]		
F.U.	S	S/O	S/O
W.F.	*S	O	O

18.b [WIN'YA][ERA] < ag ben/so pt > "steal"

	ag	ben/so	pt
IC:	[-o]	[-r]	[+o]
dft.	[-r]		[+r]
F.U.	S	S/O	Oθ
W.F.	S	O	Oθ

[*]

18.b **Mariamu ho - mw - in'y - er - a Zeena mwaana**
pN tm om steal appl tm pN 1.child
Mariamu has stolen a child for/from[7] Zeena.

In both cases we observe that:

(a) the beneficiary and/or recipient is thematically higher than the theme and/or patient.

(b) The theta role which is intrinsically classified [-r] is the one whose grammatical function triggers cliticization.

(c) Since there cannot be two NPs cliticized in the verb, (17.a) and (18.a) are ruled out by the function-argument biuniqueness condition.

The fact that it is the beneficiary role which is cliticized follows from the principle of lexical mapping which postulates that "inner" roles higher than or as high as Instrument must receive the IC of [-r]. Hence, the beneficiary role may be mapped onto either subject or object function. But given that we have the agent role, by the Function-argument biuniqueness condition, the beneficiary role cannot be mapped onto the grammatical function subject but rather onto the object function. This is shown by the Well-formedness condition (W.F.).

As an unrestricted object it can, *inter alia*, trigger object agreement. However, as stated earlier in (3.3.2), the object marking has to do with whether the NP lexically inserted under the grammatical function beneficiary object is in gender [1], rather than the fact that it is an object. Given however, that it is a fact of life that the relationship between the thematic hierarchy and the gender/human/animacy hierarchy in Emakhuwa is symmetrical, the NPs in gender [1] are normally the first candidates for lexical insertion under the higher syntactic roles.

The ruling out of (17.a) and (18.a) may be explained either:

(a) by the function-argument biuniqueness condition (Bresnan and Moshi (1990)) which states that there cannot be two NPs both with object properties, e.g.: cliticization;

or :

(b) by the additional constraint on default classification (Alsina and Mchombo (1989)) which requires that a patient-like role must be assigned the syntactic value [+o] in the presence of another higher patient-like role.

But, given that the latter constraint is based on the fact that in some languages only one inner theta role receives the intrinsic classification of [-r], and that from the passivization facts we suspect that this is not the case for Emakhuwa, we take the former explanation as the principled one. Hence, in (18.a) **mwaana** "child" cannot trigger agreement despite its gender, for there is another NP with objective functions[8]. Thus the alternative classification of patient/theme role [+o] is chosen in the lexical mapping of the theta roles.

Though there are rare motivating linguistic contexts in which an NP in gender [1] may lexically be inserted under the grammatical function Instrument, we have found that in cases where both the Instrument and the Patient roles are in gender [1] they can trigger agreement alternatively. In order to see how this can be so, let us once again apply the morpholexical operations of the applicative, as in (19):

19.a [OVARA][ELA] < ag ins_{appl} pt > "catch"

IC:	[-o]	[-r]	[-r]
Dft.	[-r]		
F.U.	S	S/O	S/O
W.F.	*S	O	O

19.b [OVARA][ELA] < ag ins_{appl} pt > "catch"

IC:	[-o]	[+o]	[+o]
Dft.	[-r]		
F.U.	S	O_θ	O_θ
W.F.	*S	O_θ	O_θ

From the the Well-formedness (W.F.) condition reflecting the functional underspecifcation (F.U.) and this in turn reflecting the intrinsic and default classifications, we observe that both morpholexical operations generate ungrammatical sentences. However the examples (19.c-d) show that when the theta role Instrument is made prominent (19.a), the Patient is restricted, and when the Patient is prominent (19.b), the Instrument becomes restricted. (Note that either case may be interpreted rather ambiguosly in that either NP may be regarded as the instrument. We only choose one sense for the convenience of our illustration):

[*]

19.c **Nantto no - m - mar - el - a akhole mwalapwa**
pN tm 1.om catch appl tm 2.monkey 1.dog
Nantto uses the dog to catch monkeys

[*]

19.d **Nantto na - a - var - el - a akhole mwalapwa**
pN tm 2.om catch appl tm 2.monkey 1.dog
Nantto catches monkeys using the dog

Hence, the choice of a negatively marked syntactic feature value [-r] for a theta role determines the reciprocal choice of a positively marked feature value [+o] for the other, as (19.e) shows:

19.e [OVARA][ELA] < ag ins_{appl} pt > "catch"

IC:	[-o]	[-r][+o]	[-r][+o]
Dft.a	[-r]	[-r]	[+r]
Dft.b		[+r]	[-r]
F.U.a	S	S/O	O_θ
F.U.b	S	O_θ	S/O
W.F.a	S	O	O_θ
or: b	S	O_θ	O

As a result, either the "applied" instrumental object or the patient object can trigger agreement, but not simultaneously. What predetermines the choice of either one, however, appears to be beyond the predictions of the theory of lexical mapping.

An example of the morpholexical operation of the applicative rule on a triadic verb with the reading of benefactive is provided in (20.a-b):

20.a [OKOHA][ERA] < ag ben go th > "ask"

IC:	[-o]	[-r]	[-r]	[-r]
Dft.:	[-r]			
F.U.:	S	S/O	S/O	S/O
W.F.:	*S	O	O	O

20.b [OKOHA][ERA] < ag ben go th > "ask"

IC:	[-o]	[-r]	[+o]	[+o]
Dft.:	[-r]		[+r]	[+r]
F.U.:	S	S/O	Oθ	Oθ
W.F.:	?S	O	Oθ	Oθ

[*]

20.b ?**Nantto ha - a - koh - er - a asaana mpewe esariya**
pN tm 2.om ask appl tm 2.child 1.king 7.truth
Nantto asked the king the truth for the children

The example (20) shows once again that the agreement is with the role intrinsically marked [-r]. This coincides with the beneficiary role. And even though the NP under the role goal is in gender [1] it is prevented from triggering agreement by the function-argument biuniqueness condition. Hence, it becomes, so to speak, grammatically *invisible*, falling under what has been described as "object loading". If both NPs are in

gender [1] with an equal number of selectional features, e.g.: class, number, humanness and animacy, there is ambiguity. For instance, if the NP **asaana** "children" were in class [1] the above example could read:

(a) Nantto has asked the child the truth for the king

(b) Nantto has asked the king the truth for the child.

The few examples analysed above have shown that the intrinsic classification of theta roles determines, in the ultimate instance, the grammatical behaviour of a given syntactic argument. This syntactic behaviour may or may not include the selectional restrictions of a given NP that require gender specification through object marking, according to the thematic hierarchy onto which the NP is mapped. However, although these examples show how agreement is also dependent on thematic hierarchy, they are ill-formed by the phenomenon of *object-loading*. In much the same way that the biuniqueness condition rules out that the Beneficiary and the Goal express the grammatical property of objecthood by cliticization, the Goal and the Theme cannot both be restricted. Hence, both results of the morpholexical operations in (20) are ruled out by the Function-argument biuniqueness condition.

4.1.3.2 Word order and Applicative constructions

It may be assumed that word order is inherently linked to the intrinsinc classification of "inner" theta roles. Alsina and Mchombo (1988,1989), for instance, suggest that NPs lexically mapped onto Patient-like theta roles with the intrinsic classification of [-r] not only trigger agreement but are also located adjacent to the verb.

Ignoring for the moment the ill-formedness of the above example (20) if we take and repeat it here as (21) we can have at least three possible orders in which the non-subject NPs would be in a postverbal position, e.g.:

[*]

21. Nantto haakohera asaana mpewe esariya
Nantto haakohera mpewe esariya asaana
Nantto haakohera esariya asaana mpewe

all with the reading:

"Nantto has asked the king the truth for the children"

However the seemingly unusual feature of high freedom of syntactic collocation[9] of non-subject NPs, including the one with the syntactic value [-r], does not sever the link between the unrestricted grammatical argument and the verb, no matter what the physical distance is between them. Since there is only one object that can trigger agreement, and since the agreement object marker precedes immediately the verb radical, and given that only NPs in gender [1] trigger agreement, then it does not matter whether the NP which triggers the agreement follows immediately after the verb. In other words, in Emakhuwa, the beneficiary NP is always the first NP, not by physical immediacy to the verb, but by pronominal or grammatical verbal incorporation. In this sense adjacency is subordinated to cliticization.

4.1.4 The interaction of Applicative constructions

Stucky has this to say about double applicatives in Emakhuwa:

"... but to date I have not uncovered any such verbs that do not seem to be a frozen form plus a productive use of the applied" (Stucky (1985:96)).

Stucky's statement about double applicatives in Emakhuwa is an oversight. Indeed, there is a successive occurrence of productive applicative extensions in Emakhuwa. In this section we undertake to show the occurrence of successive "applied" objects and the restrictions of this type of construction within the different patterns of verbal polyadicity.

4.1.4.1 The double applicative and the monadic verbs

We have claimed that the type of transitivization taking place within monadic verbs, through the application of such rules as the Applicative, is different from that occurring with verbs in other patterns of polyadicity. This claim is substantiated by the following facts:

(i) benefactive reading within unergative verbs is is not acceptable, e.g.:

22.a [OROWA][ELA] < ag *ben$_{appl}$ loc > "go" [*]
"OROWELA ((SUBJ) (OBJ_2) (OBL))

Anumwana y - a - weren'ya w - a - row - el - e
1.mother sp tm sick sp 2.om go appl tm
When your mother is sick you must go

o - khuni - ni [*]
17. fire wood loc
and get her to the firewood
/*?you must go to the firewood on her behalf

The benefaciary reading of (22) is highly controversial due to both the thematic structure of the verb, which leads the "applied" object to being grammatically interpreted primarily as theme, and the meaning satisfaction that such a construction fulfils. Unambiguous beneficiary reading therefore requires the

introduction of another "applied" theta role, as in (22.b):

22.b [OROWA][ELA][ELA] ——> "OROWELELA" "go"

< ag ben$_{appl}$ rat$_{appl}$ > [*]
| | |
((SUBJ) (OBJ_2) (OBJ))

Anumwana y - a - weren'ya w - a - row - el - el - e
1.mother sp tm sick sp 2.om go appl appl tm
When your mother is sick you must go

e - khuni [*]
7. fire wood
and fetch firewood on her behalf

(ii) Instrumental reading of applied objects is contextually possible with some unergative verbs. This contextual possibility is due to the fact that such a construction may fill two readings:

23. [OKHURUWA][ELA] < ag inst$_{appl}$ loc > "descend"
| | |
"OHKURUWELA ((SUBJ) (OBJ) (OBL))"

Ola mkhoyi ola pi o - no - khuruw - el - a aka
dm 3.rope dm cp Rm tm descend appl tm Rs
This rope is the one with which I

vathi [*]
16.ground
descend to the ground

Or: **It is this rope for which I descend to the ground**

Thus, benefactive and instrumental readings of theta roles introduced by the Applicative construction in monadic verbs require that the input verbs be perceived as though they were structurally dyadic.

In brief, it may be claimed that the occurrence of unrestricted applied roles, i.e., applied theta roles higher than Instrument, with unergative verbs and/or with unaccusative verbs as the derivational input verb is ruled out.

However, double applicatives within monadic verbs allow one of the morphemes to be interpreted as unrestricted applied object. Consequently, beneficiary or, perhaps, recipient reading within monadic verbs is only possible when there is a double applicative, that is, after unergative verbs have been "applicativized" or transitivized. In these cases one of the theta roles behaves as unrestricted and the other as restricted. This leads us to posit that:

(a) In accordance with our predictions about the limit on the "inner" roles that a verb can hold, the number of roles syntactically expressable as inner theta roles introduced by the Applicative rule is limited to two.

(b) The two inner theta roles introduced by the Applicative may not have the same syntactic properties. For well-formedness conditions one has to be restricted.

(c) In order for an applied theta role to be interpreted as unrestricted, there must be an "inner" theta role in the input verb. This explains why unergative verbs and unaccusative verbs may not have benefactive or recipient readings in Emakhuwa, for, by nature, they lack "inner" theta roles.

4.1.4.2 The double applicative and the dyadic verb

The double applicative is also possible within dyadic verbs, as the examples (24.a-b) and (25.a-b) show:

24. Applicative:

a. [OLIMA][ELA] < ag ben$_{appl}$ th > "cultivate"

[*]

Ki - na - a - lim - EL - a ematta ataata
sp tm om cultivate Appl tm 7.farm 2.uncle
I am cultivating the farm for/on behalf of
my uncle

b. [OTHIKILA][ELA] < ag inst$_{appl}$ th > "cut"

[*]

Mwaalo waa - thikil - el - a aka enama ori vayi
3.knife Rm cut appl tm Rs 7.meat cp 16.loc
The knife with which I was cutting the meat is
where?

25. Double Applicative:

a. [OLIMA][ELA][ELA]: ——> "OLIMELELA"

< ag ben$_{appl}$ th rat$_{appl}$ > "cultivate"

Ki-na- a - lim - el - el - a ematta
sp tm 2om cultivate appl appl tm 7.farm
I am cultivating the farm

otaata [*]
14.unclehood
for him for he is my uncle

b. [OTHIKILA][ELA][ELA]: ——> "OTHIKILELELA"

< ag ben$_{appl}$ inst$_{appl}$ th > "cut"

Mwaalo waa - m - thikil - el - el - a aka enama
3.knife Rm 1.om cut Appl Appl tm Rs 7.meat
The knife with which I was cutting the meat

Nantto ori vayi? [*]
pN cp 16.loc pron.
for/on behalf of Nantto, where is it?

The rational reading in (25.a) could be possible without the second applicative morpheme, but (24.b) could not drop the second applicative morpheme without changing the meaning of the clause. Once again (24.b) manifests object-loading which in principle violates the biuniqueness condition. Hence, the example (24) is not uncontroversial. Just as with the double applicative in monadic verbs, only two roles may be introduced by the applicative in dyadic verbs at a time. Since dyadic verbs have theme/patient "inner" role, the Applicative introduces one theta role lower than theme, and one higher than theme. In cases where it introduces two theta roles both higher than theme, there is a violation of the biuniqueness condition, unless either theme or one of the theta roles introduced is grammatically omitted.

Although the beneficiary reading is less debatable within dyadic verbs than within monadic verbs, there are virtually no dyadic verbs which accept the beneficiary reading only. This suggests that only triadic verbs, verbs with two "inner" roles, one of which being Goal, allow a beneficiary reading. Indeed, in triadic verbs double applicatives are ruled out.

4.2 The Causative construction in Emakhuwa

The theory of lexical mapping posits amongst other things that the highest theta role of a predicate argument structure

"corresponds to the agent argument of active and passive verbs, the experiencer argument (whether subject or object) of noncausative psychological verbs, and theme argument of unaccusative verbs" (Bresnan and Moshi (1990:169)).

In this definition it is not clear what the thematic position of the "causator" of the causative verb is, although from the hierarchical point of view, by missing out the theta role of "Cause" or "Causator", the theory of lexical mapping appears to suggest that no theta role may have a thematic position higher than the agent (Bresnan and Moshi (1990:169(=58)), Bresnan and Kanerva (1989), Alsina and Mchombo (1988)). As a matter of fact, this appears to be the reading that one gets from Alsina's (1990:11) characterization of the causative verb and indeed of the causative morpheme:

"A causative verb (in Chichewa) expresses a three-way relation between an agent and a patient and an event. The agent is the causer or instigator of the event. The patient is a participant which is directly affected or acted upon by the causer which corresponds to one of the basic verb arguments of the non-causative verb. So, we can say that the causative morpheme contains, as its semantic representation, an argument structure with an agent (the causer) and a patient which is fused with one of the thematic roles of the argument structure that it combines with", (my emphasis).

There may be ground to believe that this characterization may be applicable to other Bantu languages such as Emakhuwa. However, the amalgamation of theta roles referred to by Alsina as "**fusion** of thematic roles" (Alsina (1990:11), that is:

"a combination of the content of two thematic roles in one single argument, so that they correspond to one single morphosyntactic expression"

represents, in our view, a serious problem in the aspect of formalization of the lexical mapping theory.

Furthermore, regarding the morpholexical operations, Bresnan and Moshi provide all the formalizations of the lexical rules that involve extension morphemes,

including the rule corresponding to Theme suppression but remain evasive on the formalization of the lexical rule of causative (Bresnan and Moshi (1990:169-170)). Whether deliberate or not, this lapse seems to suggest either the irrelevance of the question or the difficulty of formalization presented by the theory in the area of amalgamation of theta roles. However, in our view, the notion of fusion must be seen as one of those semantic aspects that is not grammatically visible, for if it was, it would appear to be incompatible not only with the function-argument biuniqueness condition, but also with the principle of default classification. Most importantly, it would be necessary to state not only the constraints under which it occurs, but also to indicate whether it takes place either before or after any of the following processes:

(a) intrinsic classification,
(b) morpholexical operation,
(c) default classification
(d) and functional underspecification

Due to this formalization difficulty, the analysis of the Emakhuwa causative verb is undertaken here leaving aside the concept of "fusion" of thematic roles altogether. Instead, we take the traditional view of the grammatical functions of the causative verb, and together with the assumptions of the theory of lexical mapping, such as intrinsic classification of thematic roles and the function-argument biuniqueness condition, we attempt to describe the morpholexical operations involved in derived causative verbs.

The traditional view of the causative verbs regards the highest theta role of the causative verb -"causator"- as a *super-agent* (Givon (1972,1976,1982), Guthrie

(1962), Machobane (1989), Mann (1990: pc)). The lexical rule of causation is therefore regarded as introducing a theta role in the predicate argument structure of the input matrix verb, whose hierarchical thematic position is perceived as being higher than the highest role of the input matrix verb. By virtue of this operation the highest theta role of the input matrix verb turns into the "*Causee*", semantically speaking and grammatically interpreted as the object, in patterns of verbal polyadicity which already contain an agent theta role. This approach necessarily requires a rearrangement of the thematic relations between the "*Causator*" and the "*Causee*" on the one hand, and between the latter and the remaining "inner" theta roles on the other. Such a task demands an expansion of Bresnan and Moshi's "hierarchical argument structure" (Bresnan and Moshi (1990:168-169(=58)), which would include the Cause/Causator theta role and, perhaps, a parenthesised Causee as in (26):

26. Emakhuwa hierarchical argument structure

Cause > Ag/(Causee) > Ben > Exp > Go > Inst >

> Pt/Th > Rat > Loc >

The topmost theta role of the input verb under the morpholexical operation of the lexical rule of causation gets "internalized" (C-Duncan (1985)), or becomes "dependent" (Alsina and Mchombo (1989:10(=12)). By virtue of this operation and by the function-argument biuniqueness condition, which rules out that two thematic arguments be grammatically expressed by one single grammatical function or conversely, it can no longer be mapped onto the grammatical function SUBJ(ect).

4.2.1 Syntactico-semantic fields of the causative morpheme

As in the case of the lexical rule of Applicative, the reading of the causative rule depends upon the predicate argument structure of the input verb. However, while the Applicative may introduce theta roles lower than theme, the causative rule affects theta roles that are mapped onto either subject or object, i.e, those intrinsically classified as [-r]. The uses of the causative morpheme [**iha**] that we have recorded, namely, the causative proper (4.2.1.1), and the co-operative or adjutive, differ in semantic interpretation but not in grammatical output. Other uses, such as the inductive or instrumental and the rational, although interesting in terms of the grammatical conditions under which these readings are effected, are given no weight other than their illustration in (4.2.2).

The discussion on the restrictions of the Causative proper with the different patterns of verbal adicity is undertaken in section (4.2.3). For reasons that we hope will be clear, as this description progresses, the examples provided to illustrate each of the different uses have input verbs whose thematic structure is dyadic.

4.2.1.1 The Causative construction

The morpholexical operation of the Causative lexical rule introduces a role higher than the existing highest. Thus in the case that the matrix verb has agent, there must be a *super-agent* (Mann, (1990) p.c.), expressed syntactically as the agent$_{cause}$ or simply "Cause"/"Causator"; the highest theta role of the input matrix verb acquires the additional semantic function

"Causee", syntactically expressed as the object of the *Cause*, and the "inner" roles of the input verb get cyclically restructured according to their hierarchical thematic position and their intrinsic classifications. In any other case the Causative rule introduces an agent theta role. Thus the partial semantic representation of the Causative morpheme is substantially different from that proposed by Alsina (1990:11 (=23)) as may be seen in (27):

27. [iha]/V———

v[Cause v[θ ... θ ...]v]v

or:

CAUSE
ø
⇓
< θ < θ ... θ ... >> "Cause to V"

27.a **Mpewe ho - m - lim - ih - a Nantto ematta**
1.king tm om plough cse tm pN 7.farm
The king made Nantto plough the farm
[*]

27.b **Nantto ho - lim - a ematta** [*]
pN tm plough tm 7.farm
Nantto has ploughed the farm

The example (27.b) is the corresponding non-causative verb of (27.a). In order to see how the morpholexical operation of the lexical rule of Causation works, we present in (28.a-b) the syntactic underspecification of the grammatical arguments corresponding to (27.a):

28.a [OLIMA][IHA] < Cause < ag th > "plough/cause"

I.c.:		[-o]	[-r]
Cause	[-o]		
Dft.:	[-r]	[-r]	
F.u.	S	S/O	S/O
W.f.	*S	O	O

or:

28.b [OLIMA][IHA] < Cause < ag th > "plough/cause"

I.c.:		[-o]	[+o]
Cause	[-o]		
Dft.:	[-r]	[-r]	[+r]
F.u.:	S	S/O	Oθ
W.f.:	S	O	Oθ

These syntactic underspecifications allow us to make the following observations:

(i) The Causative rule turns the highest theta role of the input matrix verb into an "inner" role with the IC of [-r]. Hence (28.a) becomes a Causative argument structure with two "inner" or "dependent" theta roles, intrinsically classified as [-r] (Alsina and Mchombo (1989:10(=12))). This means that the theme IC of [-r] becomes indirectly affected by the Causative lexical rule. By the monotonicity constraint on the default classification, however, the theme IC of [-r] cannot be altered. Thus the default classification of (28.a) provides the basis for a functional underspecification in which we have two unrestricted "dependent" or "inner" roles. Given that the causative examples we have recorded show that NPs lexically mapped onto the theta role theme lose their property of triggering agreement, one may assume that either the [-r] IC of theme is rejected in causative constructions or one needs to appeal for the "additional principle of default classification" (Alsina and Mchombo (1989)) to make it restricted. As with the Applicative constructions, the facts relating to Passivization (5.0) bias us against the latter hypothesis. We therefore take the former hypothesis and we appeal to

the function-argument biuniqueness condition. That is, (28.a) cannot be accepted, for there cannot be two NPs with agreement object markers simultaneously in Emakhuwa.

(ii) The lexical rule of Causative appears therefore to select the alternative [+o] IC of the theta role theme, as in (28.b). Indeed, this is the approach assumed by Alsina (1990:16(=34)). Although at this juncture it is not possible to fully determine whether the "Asymmetrical Object Parameter" (AOP)[11] is operative in Emakhuwa (see: (5.1.3)), we assume Alsina's position on this, but on the basis of the Function-argument biuniqueness condition as posited by Bresnan and Moshi (1990), rather than on the grounds of the "additional principle of default classification" (Alsina and Mchombo (1989)).

4.2.1.2 The Adjutive reading of the Causative rule

The morpholexical operations involving the Adjutive or co-operative Causative construction are such that the "Causee" is semantically perceived as an agent performing the action described by the verb **together with** the "Causator". The difference between the Causative proper and the Adjutive lies in the fact that in the former, the *Causator* is an *indirect Actor* and, in the latter, a *co-Actor*. We tentatively formally differentiate the Causative reading in (28.a) from the Adjutive in (29) by subscribing $_{I}$ to the "Causator" and $_{IJ}$ to the "Causee". That is, $_{I}$ helps $_{J}$ (to) do what $_{J}$ is doing:

29. Adjutive Causative construction:

$$\emptyset \Downarrow$$

$$< \quad \theta_j < ag_{ij} \quad th >> \text{ "help to V"}$$

29.a **Phatima ha - a - thit - ih - a amayi awe nakhuwo**
pN tm 2.om grind cse tm 2mother pos 1.maize
Phatima has helped her mother to grind maize
(*mother and daughter do the grinding together*)

or: **"Phatima made her mother grind the maize". [*]**

As the well-formedness condition rules out that two theta roles be expressed by one single grammatical function, the agent$_{causee}$ is grammatically expressed as object, and the common action of Causator and Causee is not grammatically or morphologically reflected, as illustrated by the corresponding morpholexical operations in (29.b):

29.b [OTHITA][IHA] < Cause$_j$ < ag$_{ij}$ th >> "help to V"

I.c.:		[-o]	[+o]
Cause.:	[-o]		
dft.:	[-r]	[-r]	[+r]
F.u.:	S	S/O	O$_\theta$
W.f.:	S	O	O$_\theta$

As may be noticed, the default classifications differ in no way from those of the Causative proper described in (4.2.1.1) example (28.a), as the alternative reading of (29.a) suggests.

The difference is pragmatic rather than grammatical. The formal differentiation in their formalization is therefore merely conventional and designed to signal different semantic readings. The example (30) recorded from our data illustrates this use of the causative:

30. **Wiiriya paapa n - ki - tthuk - ih - e** [T8]
He said 1.father sp om tie cse tm
He said: my father, help me to tie (it) up.

4.2.2. Role suppression in Causative constructions

A causative reading of the lexical rule of causation is potentially met if both the highest theta role of the input verb and the "Causator" are present. The same is not guaranteed in Causative constructions in which there is no overt presence of the highest theta role of the input matrix verb, or in which the input verb has only one theta role. In general terms, the lack of causative reading of the lexical rule of Causation is due to three factors:

(a) suppression of either the highest theta role or the theme of the predicate argument structure of the input verb,

(b) the thematic structure of the input matrix verb, and

(c) the status of fossilization of the morphemic components of the input verb.

What follows is an attempt to describe and illustrate the different readings of the Causative rule, which we assume are co-engendered by the factors in (a). As for the factors (b) and (c), we adjourn the discussion to section (4.2.3).

As (a) suggests, the causative verbs discussed under this section are structurally such that their input verbs are at least dyadic.

4.2.2.1 The Inductive Causative construction

In the inductive construction of the lexical rule of causation, either the object of causation, "the causee", or the theme of the input verb must be suppressed. In object-drop verbs or "indefinite object deletion verbs" (Alsina and Mchombo (1989:24)) such as olima "cultivate/plough", either the theme (31.a) or the agent (31.b) or both roles of the input verb (31.c) may be suppressed. The *inducement* NP is then introduced:

31.a **Nantto no - ɯ - lim - ih - a Juuma epuri** [*]
pN tm 1.om cultivate cse tm pN 7.goat
Nantto makes Juuma cultivate for goat

31.b **Nantto no - lim - ih - a ntthoce epuri** [*]
pN tm cultivate cse tm 5.cotton 7.goat
Nantto makes cultivate cotton for goat

31.c **Nantto no - lim - ih - a epuri** [*]
pN tm cultivate cse tm 7.goat
Nantto uses goat as an inducement for cultivation

In verbs where the object must be specified, such as oteka "build", the inducement cannot co-occur with the causee as shown in (32.b) and (32.c):

32.a **Nantto no - m - tek - ih - a Juuma nikhupi** [*]
pN tm 1.om built cse tm pN 5.granary
Nantto makes Juuma build the granary

32.b ***Nantto no - m - tek - ih - a Juuma nipha** [*]
pN tm 1.om built cse tm pN 5.brandy
Nantto makes Juuma build for brandy

32.c **Nantto no - tek - ih - a nipha nikhupi** [*]
pN tm built cse tm 5.brandy 5.granary
Nantto makes the granary get built for brandy

In this construction, the relevant information is not who the "Causee" is, but rather what induces him/her to perform what the "Causator" causes him/her to. It is a kind of indirect causation. Whether the inducement can be formally labelled as either Instrument or Rational is a matter of judgement. However, what one is observing in these constructions is a freedom to suppress the highest role below the Causator, provided that there is one more role. The role which licenses suppression is often focussed by intonational features which are otherwise characteristic of nominal predication, and may be appropriately translated by a pseudo-cleft sentence.

4.2.2.2 The Rational Causative construction

Homophonous to the inductive causative construction is another type of causative construction that we tentatively and provisionally term the Rational causative construction. In this construction the "Causator" is semantically regarded as a "helper", but with the "purpose" of getting a reward. As with the inductive, the "Causee" and the theme may be omitted in constructions whose input verb is object-drop, and the Causee only in other dyadic verbs.

33. **Nantto no - lim - ih - a epuri** [*]
pN tm cultivate caus tm 7.goat
Nantto is cultivating for goat
(*i.e. Nantto is helping someone to cultivate something in order to get goat meat*)

The difference in the reading of the causative morpheme between (32.c) and (33) is highly contextualized. We found no plausible formal differentiation of the two uses of the causative morpheme [iha]. It may well be

the case that what we have described in these sections has nothing to do with the Causative rule. Whatever the case may be we, go no further into this. Instead we turn back to the causative proper and describe its restrictions within each pattern of verbal polyadicity.

4.2.3 Restrictions to Causative construction

As earlier stated in (4.2.0), the causative reading of the morpheme [iha] depends essentially upon the predicate argument structure of the input verb. On the basis of our formulation of the causative verb, we posit that there is a potential causative reading when the highest theta role of the predicate argument structure of the input verb is perceived as the agent. What follows is an attempt to survey the main constraints of the causative reading in the different patterns of verbal adicity.

4.2.3.1 Causative construction and the dyadic and triadic matrix verbs

It has been demonstrated in the previous sections that dyadic verbs provide a potential reading of the causative lexical rule. There are, however, examples of causative verbs which, though having derived from dyadic verbs, become fossilized, often acquiring a new and independent meaning. Although these verbs are excluded from our research, some of them have straight correlations with the regular forms of verb derivation such that they deserve mentioning, even if in passing. For example the verb **othuma** "buy" in (34.a-b) shows the homophonous relation between its causative verb **othumiha** "cause to buy" and the *fossilized* causative **othumiha** "sell", which have two totally different thematic structures. The former is illustrated by

(34.a) and the latter by (34.b):

34.a [OTHUMA][IHA] < Cause < ag th >> "buy/cause"
"OTHUMIHA ((SUBJ) (OBJ2) (OBJ))"

Othela nno o - ho - ki - thum - ih - a ikuwo
15.marriage 15.dm sp tm 1.om buy cse tm 8.cloth

co orika [*]
gp 15.hard
This marriage has made me buy expensive clothes

34.b [OTHUMIHA] < ag th > "sell"
"OTUMIHA ((SUBJ) (OBJ))"

Neera ikole n'ya min mlopwana
He said 8.coconut tree 8dm pro 1.friend
He said: these coconut trees, I, my friend,

a - ki - n - thumih - a [T5]
ng sp tm sell tm
do not want to sell them

In (34.b) the fossilized thematic structure of the causative verb is as though **ikole** "coconut trees", the theme, were the highest theta role of an unergative verb or of an unaccusative verb which has been subject to the lexical rule of Causative, or still as if the highest theta role of its input verb **othuma** "buy" were suppressed and long forgotten completely. In each of these cases the "Causator" becomes in reality the agent, and the "Causee" the theme, reflected in the formal representation suggested above. Consequently, although the two verb forms, the regular and the fossilized causative, may in "*abstracto*" be regarded as involving a third theta role (the Source and the Goal respectively), the latter is synchronically regarded as a dyadic verb while the former is by the rule of causative triadic[12].

The Causative construction with triadic verbs appears to differ from the facts observed in dyadic verbs. That is, although it is possible to suppress the highest theta role of the input verb, the only possible readings of the Causative are those of the Causative proper or of the adjutive Causative. The reason behind this appears to lie in the argument structure of the triadic verb itself. In principle, "object loading" is something the intuitive knowledge of the language of the author finds should be avoided. Hence, the Causative rule on triadic verbs is dubiously acceptable, for it turns triadic verbs into tetradic ones, which is ruled out in Emakhuwa, as the example (35.a) illustrates:

35.a [OLIVA][IHA] < Cause < ag go th >> "pay/cse."
"OLIVIHA ((SUBJ) (OBJ_2) (OBJ) (OBJ))" [*]

35.a ?**Nantto ho - m - liv - ih - a Juuma milattu mpewe**
pN tm 1.om pay cse tm pN 4.affair 1.king
Nantto made/helped Juuma to pay the affair to the king

In order to get the message of the Causative reading in triadic verbs, it appears to be necessary that one of the theta roles of the input verb be suppressed. Since the triadic verbs do not allow theme suppression, i.e., they are never used intransitively, the candidates for suppression are either the goal or both the agent and the goal as the examples (35.b-c) show:

35.b [OLIVA][IHA]: ——> "OLIVIHA"

< Cause < ag go th >> "pay/cause/help"
((SUBJ) (OBJ_2) ø (OBJ))" [*]

Nantto ho - m - liv - ih - a milattu Juuma
pN tm om pay cse tm 4.affair pN
Nantto made/helped Juuma (to) pay the affair

35.c [OLIVA][IHA]: ——> "OLIVIHA"

```
< Cause < ag   go   th >> "pay/cause/help"
    |     |    |    |
((SUBJ)   ø    ø   (OBJ))
```

35. Nantto ho - liv - ih - a milattu [*]
pN tm pay cse tm 4.affair
Nantto made/helped to pay the affair

In order to show why (35.a) is uneasily acceptable, we present the syntactic underspecifications resulting from its morpholexical operations in (35.d):

35.d [OLIVA][IHA] < Cause < ag go th >

I.c.:		[-o]	[-r]	[+o]
Cause	[-o]			
Dft.:	[-r]	[-r]		[+r]
F.u.:	S	S/O	S/O	Oθ
W.f.:	*S	O	O	Oθ

The biuniqueness condition of well-formedness rules that recipient or goal in (35.a) be restricted in order to avoid two NPs which would otherwise both trigger agreement. By restricting goal, we have two restricted theta roles, which by the same token is also ruled out. Indeed, the goal and theme roles become grammatically invisible. While we can claim that the causee is the secondary object in these circumstances, it becomes difficult to tell which, between the goal and the theme, is the primary object, or whether both count as one primary object, in which case the biuniqueness condition is violated. In terms of what we predicted regarding the number of theta roles that a predicate can take and that can be expressed grammatically, this appears to support our claim that the number cannot go beyond two inner theta roles. Hence, the causative reading of the lexical rule of causation is sensitive to the number of theta roles that an input matrix verb has.

The triadic verb recorded in our data as an input to derivation of a causative form is that of **waakha** "snatch", in (36):

36. [WAAKHA][IHA]: ——> "WAAKHIHA" [T1]

< Cause < ag so th >> "snatch/cause"
((SUBJi) (OBJ2i) ø (OBJi))"

Wiiriya khuli kikhumele ota n'we
He said: oh! no let me get 17.out 17.dm
He said: oh!, let me go out there

k - e - ec - akh - ih - e
sp tm Refl snatch cse tm
so that I can free myself (urinate/defecate)

Note that the reflexive makes the theta roles Causator, Causee and Theme co-refer to the same lexical item, hence the subscription of i under each grammatical function mapped onto each of them.

Verbs such as **okoha** "ask", **olepela** "ask for" may serve as input matrix verbs to derived causatives, as long as one of the theta roles is suppressed.

37. [OLEPELA][IHA]: ——> "OLEPELIHA"

< Cause < ag so th >> "ask/cause"
((SUBJ) (OBJ2) ø (OBJ)) [*]

Ntthona ni - ho - ki - lipel - ih - a maasi
5.thirst sp tm om ask cse tm 6.water
Thirst has caused me to ask for water.

4.2.3.2 Causative construction and the unergative and unaccusative matrix verbs

As in the case of the Applicative constructions, no unergative verbs may serve as an input matrix verb to causative verb forms with the reading of causative. Given that unergative verbs have the topmost theta role as the agent, and given that they lack the theta role Theme, the state of affairs described by the verb affects the agent itself. Due to this, when an agent$_{cause}$ is added by the rule of Causation to an unergative verb, the highest theta role of its predicate argument structure becomes in reality the Theme, and the newly introduced role, the "Causator", becomes, as it were, the agent. Hence, the causative reading becomes blurred. Instead, the unergative causative verb form behaves grammatically as if it were a dyadic verb. Examples of these cases recorded from the data include verbs such as **okhuma** "come out", **ophiya** "arrive", **owa** "come" and **orapa** "bathe", in (38.a-d) respectively.

38.a [OKHUMA][IHA] < Cause < ag >> "come out"/cause
"OKUMIHA ((SUBJ) (OBJ))" [T7]

Ho - kum - ih - a esinku ele ho - vah - a
tm come cse tm 7.penny 7dm tm give tm
He took out a penny and gave (it to her)

38.b [OPHIYA][IHA] < Cause < ag >> "arrive"/cause
"OPIIHA ((SUBJ) (OBJ))" [T9]

Min'yaano maama ola ki - naa - m - kus - a
pN 1.mother dm sp tm om take tm
As for me, mother, I will take him/it

ki - naa - m - pi - ih - a
sp tm om arrive cse tm
and make him/it arrive there

38.c [OWA][IHA] < Cause < ag >> "come"/cause

"OWIIHA ((SUBJ) (OBJ))" [T1]

Wiiriya no - o - wi - ih - a va ncurukhu
They said sp tm come cse tm 16.loc 3.money
They said: we have brought some money now.

38.d [ORAPA][IHA] < Cause < ag >> "bathe"/cause

"ORAPIHA" ((SUBJ) (OBJ))" [T8]

Pi wakusale aya o - rap - ih - a ekhalako aya
cp 17.took Rs 15sp bathe cse tm 7.pot pos
She then took and washed her pot

ele vale
dm 16.dm
over there.

What strikes one about the examples above is that, except for (38.b), which has object in gender [1], all other NPs associated with the theta role agent in the input verb are [-animate]. This suggests the loss of agentiveness, even in the case of (38.b), which is one of the component features of amalgamation of theta roles in unergative verbs. What remains in this case is the other component theta role amalgamated in these verbs, i.e., Theme. Hence, the Causative construction of unergative verbs becomes structurally non-distinct from that of unaccusative verbs. The thematic structures corresponding to (38.a-d) ought therefore, to be formulated as the one corresponding to Causative construction of unaccusative matrix verbs, as in (39).

Indeed, the Causative construction with unaccusative verbs that select the causative morpheme [iha], (see (4.2.4) for other types of unaccusative verbs), is parallel to that with unergative verbs. Since the highest theta role of unaccusative verbs is that of Theme, the lexical rule of Causation introduces a theta role which, due to lack of an agent, takes this

position in the verb's predicate argument structure. Hence, it is no longer perceived as the "Causator", as the example in (39) shows:

39. [ONAANA][IHA] < agent < th >> "be wet"/causative

I.c.:		[-o]
Cause	[-o]	
Dft.:	[-r]	[-r]
F.u.:	S	S/O
W.f.:	S	O

A - naa - row - a mihooli-mihooli [T7]
sp tm go tm ahead
They will carry on

mkontto owo khu - naan - ih - aka
3.cloth dm cp wet cse tm
and will wet the cloth

Consequently, what the role of Causative rule appears to be in both unergative and unccusative verbs is that of "*transitivization*", by virtue of which the highest theta role of unergative verbs turns into Theme, and the theta role introduced in unaccusative matrix verbs becomes the agent. In these verbs the causative morpheme is tantamount to fossilized.

4.2.4 The interaction of Causative constructions

The transitivization use of the causative morpheme in unergative as well as in unaccusative verbs may be considered as another main use of the Causative morpheme, together with the four already identified. In this section we set about to analyse the possible combinations and the restrictions on the combinations of these uses. We describe these combinations as the phenomenon of the double Causative construction in (4.2.4.1).

4.2.4.1 The double Causative construction

Although we found no examples recorded in our data similar to the double Applicative construction, there are occurrences of two successive morphemes [iha] in Emakhuwa (at least in the author's idiolect), each apparently introducing a different theta role. The most frequent combinations are:

(i) the Inductive and the Causative,
(ii) the fossilized causative and the Causative

(a) the transitivizing causative and the Causative,
(b) the fossilized Causative proper and the Causative.

The former appears to be the most controversial one, in that it appears that the construction hitherto described as *inductive* introduces in effect an inductive or causative instrument. The examples have been drawn from the author's own intuitive knowledge of the language.

40.a [OLIMIHA][IHA] ——> "OLIMIHIHA"

< Cause < ag ind/inst th >>
| | | |
((SUBJ) ø (OBJ) (OBJ)) [*]

Mhinti ikuwo no - lim - ih - ih - a ematta
1.Indian 8.cloth tm cultivate cse ind tm 7.farm
The indian (shopkeeper) uses cloths to induce people to cultivate his farm

40.b [OTEKIHA][IHA] ——> "OTEKIHIHA"

< Cause < ag ind/inst th >> [*]
| | | |
((SUBJ) ø (OBJ) (OBJ))

Mlupa no - tek - ih - ih - a enupa enama yowumma
1.hunter tm built cse ind tm 7.house 7.meat dry
The hunter uses dry meat for people to build his house

In these constructions the theme of the input verb must not be omitted even with the object-drop verbs. Hence, as with the simple inductive construction (4.2.2.1), the Causee must be suppressed, otherwise we would have a tetradic verb, which is ruled out in Emakhuwa. It appears therefore, that the Causative morpheme may introduce a theta role instrument in an already causatively extended verb, provided that the Causee of the input verb is suppressed.

Causatively transitivised unergative and unaccusative verbs may be subject to the Causative lexical rule, thereby getting two causative morphemes in succession. Given that the first causative morpheme is no longer regarded as part of the reading of the Causative rule, we consider this as a form of lexicalization. Hence our inclusion of it under (ii) above. In order to see what is happening to the verb we provide the examples (41.a-c) below:

41.a: Basic matrix verb:

Asimuci aka a - ho - w - a [*]
2. family pos. sp tm come tm
My relatives have come

41.b: Transitivising causative:

Ki - ha - a - w - ih - a asimuci aka [*]
sp tm 2.om come cse tm 2.family pos
I brought my family/relatives

41.c: Transitivising causative + causative:

Muhakhu o - ho - ki - w - ih - ih - a asimuci aka
3.wealth sp tm om come fo.cse cse tm 2.family pos.
Wealth has made me bring my relatives

This applies to unaccusative verbs as well, as the example in (42) illustrates:

42.a **Imanka ci - ho - mal - a** [*]
8.mango 8.sp tm end tm
The mangoes have come to an end

42.b **Zeena ho - mal - ih - a imanka** [*]
pN tm finish fo.cse tm 8.mango
Zeena has finished the mangoes

42.c **Etala e - ho - m - mal - ih - ih - a Zeena**
7.hunger sp tm 1.om finish cse cse tm pN
Hunger has caused Zeena to finish

imanka [*]
8.mango
the mangoes

In terms of the lexical mapping theory, the two morphemes must be mapped onto two syntactically different NPs. And if we posit that the Causative reading proper has to turn an input verb into triadic, then we have to admit that one of the causative morphemes introduces the theta role corresponding to theme of the dyadic verbs. In this sense, the causative morpheme is fossilised semantically[13].

Examples of the fossilized causative, in the sense that the morpheme loses both its semantic and syntactic functions, are plenty. But since the role of lexicalized extensions is beyond our investigation, we limit ourselves to referring back to the example (34.b) in (4.2.3.1), repeated as (43):

43. Ikole **n'ya a - ki - n - thumih - a**
8.coconut tree dm ng sp tm sell tm
These coconut trees I do not sell (them)

onohala o - ki - thumih - ih - a n'ya
what will sp sp sell cse tm dm
what will cause me to sell these

opatthani
14.friendship
is friendship

If from the above example, one cannot talk of an interaction of causative constructions, the same would not apply in the previous cases in which the transitivizing function of the causative morpheme interacts with the Causative proper and this interacts with the inductive. The fact that we do not register instances of causative interaction in which three causative morphemes occur, appears to reiterate the observations we made earlier in the case of the applicative construction, namely, that only two "inner" theta roles are allowed to be introduced by the same morpheme derivationally.

4.2.5 On the grammatical range of -iSa, -Ula and -iha Causative constructions

It has been suggested in passing that the lexical rule of Causative could be indexed semantically or expressed morphologically by the idiosyncratic causative morphemes **-ISa** and **-Ula**, as well as by **-iha**, (see (2.2.2). As the term *idiosyncratic* itself suggests, the former two morphemes operate within what we have described as idiosyncratic verbal lexical items, while the morpheme **-iha** is selected by the regular processes of verbal lexical derivation. More specifically, **-iSa** transitivizes idiosyncratically derived unergative an unaccusative verbs, and it occurs with a small number of idiosyncratically derived transitive verbs. **-Ula** transitivizes idiosyncratically derived unaccusative verbs, the outputs of which are often known as *reversive* verbs. In this sense, it may be claimed that the three morphemes have a common functional denominator, i.e., that of transitivization of monadic verbs, each in its domain, a process traditionally described as turning "neutral" verb forms into "active" ones.

As for the causative reading of the Causative rule, however, we have posited that this cannot be attained with both unergative and unaccusative verbs that select the morpheme **-iha**. Whether the Causative reading is achieved by the idiosyncratic causative morphemes, is what this section attempts to find out.

The examples illustrating the morphemes **-iSa** and **-Ula** are confronted with the Causative construction using the morpheme **-iha** in order to determine the grammatical range of both **-iSa** and **-Ula** on the one hand, and **-iha** on the other.

To start with, we analyse **idiosyncratic transitive** verbs that select both the morpheme **-iSa** and the morpheme **-iha**.

44.	ohapuwa	"step aside/give way to"	-isa/-iha
	ohatthuwa	"go astray"	-isa/-iha
	ohuluwa	"avoid/bypass"	-isa/-iha
	olapuwa	"cross/overcome" [difficulties]	-isa/-iha

These verbs behave as though they were "indefinite object deletion verbs", but differ from these in the sense that the action described by the verb affects the subject rather than the object NP. In this sense they behave as if they were idiosyncratically derived unergative verbs. Thus they select the morpheme -ISa.

45.a [OHAPUWA] < Ag > "step aside" (unergative): [*]

Mthiyana naa - hapuw - a a - a - on - aka alopwana
1.woman tm step aside tm sp 2.om see tm 2.men
A woman gives way when she sees men

45.b [OHAPUWA][ISA] < Cause < ag >> "step aside"

"OHAPUSA ((SUBJ) (OBJ))" [*]

Alopwana a - naa - m - hapu - s - a mthiyana
2.men sp tm 1.om step aside cse tm 1.women
The men turn away the woman/the men cause the woman to give way

45.c [OHAPUSA][IHA] < Cause < ag th >>
"OHAPUSIHA ((SUBJ) (OBJ_2) (OBJ))" [*]

Mpewe naa - waa - hapus - ih - a alopwana mthiyana
1.king tm 2.om turn away cse tm 1.woman 2.men
The king causes/helps the men to turn away the woman

When the verbs are used ergatively, i.e., in a way that could be described as non-idiosyncratic dyadic verbs, then the morpheme **-iha** is selected.

46.a [ohapuwa] < ag th > "bypass" (transitive)

Mthiyana na - waa - hapuw - a alopwana [*]
1.woman tm 2.om bypass tm 2.men
a woman bypasses the men/gives way to the men

46.b *[OHAPUWA][ISA] < Cause < ag th >> [*]

***Mpewe naa - m - hapu - s - a mthiyana alopwana**
1.king tm 1.om bypass cse tm 1.woman 2.men
The king causes the woman to bypass the men

But,

[*]

46.c **Mpewe naa - m - hapuw - ih - a mthiyana alopwana**
1.king tm 1.om bypass cse tm 1.woman 2.men
The king causes the woman to bypass the men

The reason why (46.b) is unacceptable and (46.c) is acceptable, derives from the fact that in the former the idiosyncratic causative morpheme turns the highest theta role into theme, which is grammatically expressed as the OBJ(ect), and the Causator becomes the Agent. In (46.b) the highest theta role becomes the Causee. Since in (46.a) the verb is used transitively, -iSa is ruled out and -iha is allowed in (46.c). The differences between these two causative morphemes derive therefore from the way in which the input verb is used, viz.

whether intransitively or transitively. For clearer examples see (47.a-c) below:

47.a Etala e - ho - ni - lapu - s - a muro [*]
7.hunger sp tm 1.om cross cse tm 3.river
Hunger has taken us over the river

47.b Etala e - ho - ni - lapuw - ih - a muro [*]
7.hunger sp tm 1.om cross cse tm 3.river
Hunger has forced us to cross the river

47.c Etala e - ho - ni - lapus - ih - a inama [*]
7.hunger sp tm 1.om cross cse tm 8.animal
Hunger has caused us to take (our) animals

muro
3.river
over the river

The causative reading, if there is one, in the idiosyncratic construction of these verbs, has the flavour of inability of the causee to carry out the task in question forcing the causator to force it on him. That is, the causee lacks the will or the willingness to perform the action. Thus in (47.a) there is a direct causation, while in (47.b) and (47.c) the cause is perceived as not participating directly in the action of "crossing" the river. The fact that once the idiosyncratic derivation has taken place, then the morpheme -iha is allowed, shows that the two morphemes have distinct grammatical functions. This may be better illustrated by the verbs which only select -ISa, such as the idiosyncratic unaccusative verbs illustrated in (48.a-c) and (49.a-c):

48.a [OLATTUWA] < th > "start/spread"

Mooro o - ho - lattuw - a [*]
3.fire sp tm start tm
The fire has started

48.b [OLATTUWA][SA] < Cause < th >> "start"

Alupa a - ho - lattu - s - a mooro [*]
2.hunter sp tm start cse tm 3.fire
The hunters have started the fire

48.c [OLATTUSA][IHA] < Cause < ag th >> "start/cause"

Kharamu ha - a - lattus - ih - a alupa mooro
1.lion tm 2.om start cse tm 2.hunter 3.fire
The lion has caused the hunters start a fire [*]

49.a [OPHWEYA] < th > "break"

Ekhalako e - ho - phwey - a [*]
7.pot sp tm break tm
The pot has broken

49.b **Mwaaruusi ho - pwe - s - a ekhalako** [*]
1.girl tm break cse tm 7.pot
The girl has broken the pot

49.c **Maasi ooviha a - ho - m - pwes - ih - a**
6.water hot sp tm 1.om break cse tm
Hot water has caused the girl to break

mwaaruusi ekhalako [*]
1.girl 7.pot
the pot

Similar examples selecting -Ula are given in (50.a-c):

50.a **Ekahi e - ho - phakuw - a** [*]
7.calabash sp tm open tm
The calabash has opened

50.b **Sumana ho - phak - ul - a ekahi** [*]
pN tm open cse tm 7.calabash
Sumana has opened the calabash

50.c **Mthiyana ho - m - phakhul - ih - a Sumana** [*]
1.woman tm 1.om open cse tm pN
The woman has made/helped Sumana (to) open

ekahi
7.calabash
the calabash

The fact that only when these verbs have been idiosyncratically derived can they become input to the regular Causative processes of verb derivation, shows that the grammatical scope between these morphemes and the causative morpheme **-iha** is different. This difference may be characterized in terms of the theta roles that are introduced by these morphemes. That is, loosely speaking, while all the three morphemes increase the valency of the monadic input verbs by one and the new theta role grammatically becomes the agent, the Causative morpheme **-iha** introduces the Cause theta role in the polyadic verbs. Strictly speaking the idiosyncratic Causative morphemes do not provide a causative reading as we see it. Thus, only the regular morpheme **-iha** plays the role of Causative proper in polyadic verbs.

4.3 The Reciprocative construction in Emakhuwa

The inclusion of the reciprocative morpheme **-ana** amongst the argument adding extension morphemes may seem *a priori* not quite in tune with the semantic content enshrined in its lexical entry, as formulated by the proponents of the theory of lexical mapping (Bresnan and Moshi (1990:170(=62)), Alsina (1990:11-12(=24))).

Indeed, as Alsina puts it:

"The semantic information contained in the reciprocal morphemes specifies that its **patient or theme** is suppressed and bound to the highest theta role [of the input verb], with the interpretation that there is a **plurality** of individuals who are at the same time actors and undergoers of the action described" (my emphasis).

This definition of reciprocalization presupposes input verbs whose thematic structure is at least dyadic.

Although this use is found in Emakhuwa, it is by no means the only use of the reciprocative morpheme. Due to the fact that the grammatical effect of the morpholexical operation of the reciprocative morpheme on the input verb is distinct from that of the argument dropping extension morphemes, and due to its other uses (4.3.1.2), we have decided to put the reciprocative morpheme **-ana** amongst the argument adding extension morphemes.

4.3.1 The grammar of reciprocative constructions in Emakhuwa

Our investigation has revealed that, similarly to both the Applicative and Causative morphemes, the reciprocative morpheme may have different readings, according to the adicity and other lexical features of the input verb. When the morpheme **-ana** is used with indefinite object deletion verbs, it may have two different readings, namely, the reciprocative proper, and a reading we have called comitative. We illustrate and analyse the grammar of these ways of conveying the reciprocalization in (4.3.1.1). Furthermore, we found that when the reciprocative morpheme is used with monadic verbs it increases, so to speak, the thematic structure of the input verb rather than suppressing one theta role. Of course, the reading of such constructions is different from the canonical one. In (4.3.1.2) we undertake the analysis and illustration of such uses of the reciprocative morpheme. Double occurrences of the reciprocative morpheme **-ana** are analysed in (4.3.2).

4.3.1.1 The reciprocative construction proper

The reciprocative construction as formulated by the lexical mapping theory (Alsina (1989,1990), Mchombo (1989) and Bresnan and Moshi (1990)), may be dubbed as the canonical morpholexical formulation of the concept of reciprocalization indexed by the morpheme -ana. Indeed, as the example recorded in our data and given in (51) illustrates, there is a suppression of the theta role theme of the input verb in the reciprocal verb form **nihaattamana** "we are close to one another", but this suppression is further compensated by the plurality of the SUBJ(ect) of the reciprocal verb form expressed by the 1st. person plural of the subject prefix ni-.

51. [WAATTAMA] < ag th > "approximate"/"be close to"

Ye - ett - ale emaara piili khwiiraka akharamu
sp walk tm 7.turn nm.two cp say 2.lion
He walked two steps and the lions said:

ni - ha - attam - an - a [T7]
sp tm close rcp tm
we are close to each other/ (we got you)

This illustrates perfectly Bresnan and Moshi's formalization of the morpholexical operation of reciprocalization, (Bresnan and Moshi (1990:170(=62)), presented in (52):

52. Reciprocalization

$$\langle \theta_i \ldots \theta_i \ldots \rangle$$
$$\Big| \quad \emptyset$$

By contrast, we find Alsina's formalization of the reciprocalization process too restrictive in referring specifically to the patient/theme as the theta role that gets suppressed (Alsina 1990:12(=24)). If one is

to take triadic verbs as the input to the rule of reciprocalization, then Bresnan and Moshi's formulation of this rule, i.e., that "reciprocalization suppresses one role of the base verb", is preferable. For in the case of triadic verbs where theme suppression is not allowed, the theta role which gets affected by reciprocalization is the recipient and not the theme.

53. [OVAHA][ANA] < agi rcpi th > "give"

I.c.:	[-o]	[-r]	[+o]
rcp. supp.:		ø	
Df.:	[-r]		[+r]
F.u.:	S		O_θ

Amuci y - a - tthek - el - an - a [*]
2.relative sp tm offend appl rcp tm
When relatives get cross to each other

a - naa - vah - an - a myoono
sp tm give rcp tm 4.arms
they give arms to one another
(i.e., they forgive each other)

In any case, whether or not "suppression" is the right term to describe this kind of morpholexical operation is something one is left to wonder. For, as stated earlier, if we apply this morpholexical operation to indefinite object deletion verbs the reading of the output may be twofold:

54. Akristu kha - no - thany - an - a
2.christian ng tm discriminate rcp tm
Christians do not discriminate each other

otheene a - naa - ly - an - a [*]
2.all sp tm eat rcp tm
they all eat one another (reciprocative)
or
they all eat with one another (comitative)

The two readings may suggest that in one of them the verb **olya** "eat" was entered intransitively as an input to derivation with the morpheme **-ana**. Hence, the suppression of the theta role theme had taken place prior to the morpholexical operation of the reciprocalization. The difference between the reciprocative comitative and the reciprocative proper appears to be the inability of the latter to sustain agreement while the former can.

4.3.1.2 The comitative construction

We have shown that indefinite object deletion verbs may have a comitative reading when they occur with the reciprocative morpheme **-ana**. This would suggest *a priori* that when intransitive verbs occur with the morpheme **-ana** the reading is that of comitative. However this is not necessarily so. As with the causative morpheme, the comitative reading with the morpheme **-ana** contains the "plurality of individuals who are at same time actors" but not necessarily "undergoers", or, if "undergoers" of the action described in the input verb, not necessarily reciprocatively. This means that both transitive and intransitive verbs may have a comitative reading with the morpheme **-ana**. From unaccusative to transitive verbs, the examples below highlight the grammatical complexities that derive from the comitative use of the morpheme **-ana**.

55. [WUNTEYA][ANA] < th > "break" (unaccusative)

Mpewe ho - ontey - an - a ekhatera [*]
1.king tm break rcp tm 7.chair
The chair broke when the king was sitting on it

(i.e., the king was part and parcel of the action of breaking but not necessarily "undergoer" in the sense that he also broke part of his body, though he may have been affected, e.g.: by getting startled or even falling down).

It appears therefore that the **-ana** morpheme with unaccusative verbs allows a comitative reading in which one of the "actors" may not necessarily be affected by the action. By the thematic nature of these verbs, the action or state described in the input verb may affect both the individuals involved but not reciprocatively:

56. [WUNNUWA][ANA] < th > "grow with" [*]

Zeena oreera o - ho - mu - unnuw - an - a
pN 15.beauty 15sp tm 1.om grow rcp tm
Zeena has become more beautiful as she grows up
(lit.: beauty has grown with Zeena together)

In unergative verbs the morpheme **-ana** may have two readings, namely, the transitivizing function and the comitative function:

57.a [OROWA][ANA] < ag > "go with/take"

wiiriya m - tham - ih - e - ni mwaamwihima oyo
they said 1.om move cse tm sp 1.child dm
They said: move the child

mu - m - row - an - e vate vaa [T_4]
sp 1.om go rcp tm 16.out dm.there
and take him out (lit.: go with him out there)

In order to gauge the transitivizing reading of **-ana** in the verb form **mumrowane** "take him/go with him" in (57.a), let us use the causative morpheme **-iha** in place of **-ana**:

57.b **wiiriya m - tham - ih - e - ni mwaamwihima oyo**
they said 1.om move cse tm sp 1.child dm
They said: move the child

mu - m - row - eh - e vate vaa [*]
sp 1.om go cse tm 16.out dm.there
and take him out (lit.: cause him go out)

In both **mumrowane** and **mumrowehe**, the reciprocative morpheme **-ana** and the causative **-iha** appear to have a

transitivizing function rather than that of the comitative reading. They both preserve the object marker. It is in this sense that we claim that when the morpheme -ana occurs with some unergative and unaccusative verbs, it increases the thematic structure by one theta role, assuming the role of transitivization, like the causative and the applicative do. This is one of the reasons why we have decided to put the reciprocative morpheme under the argument adding extension morphemes.

Some unergative verbs however, may have the comitative reading in spite of maintaining the agreement marker, as in (58):

58. [ORUPAATHI][ANA] < ag > "sleep with"

Athiyana anoonenla aya ala ahawala awe [T7]
2.woman he discovers dm 2.mistress pos
The woman he discovers is the mistress

mhima aya mpewe, a - na - a - rupaath - an - a
1.brother pos 1.king Rm tm 2.om sleep rcp tm
of the king's brother with whom he sleeps

awe nihuku ti nihuku
Rs 5.day cp 5.day
every day.

The comitative reading with non-object-drop verbs, both dyadic and triadic, is also possible:

59. **Juuma ho - m - tek - an - a enupa Nantto** [*]
pN tm 1.om built rcp tm 7.house pN
Juuma built the house with Nantto together

[*]

60. **Zeena ki - ho - m - mah - an - a ikuwo athiyana**
pN sp tm 1.om give rcp tm 8.cloth 2.women
Zeena and I gave the women the clothes together

The intriguing feature of this construction is that even in cases where we have a theta role goal, such as in (60), the NP introduced by the morpheme **-ana** agrees with the verb in the object position which otherwise would have been filled by the goal. This suggests that thematically it is higher than the goal, which is true, for semantically it is interpreted as *co-agent*, i.e., as part of the SUBJ(ect) of the "giving" action. But since the SUBJ(ect) is grammatically singular, it takes the place of the goal and this becomes restricted. Surely this kind of thematic floating from agent to unrestricted "dependent" theta roles does not make sense in the theory of lexical mapping. Nor does it in the above example (55.a), where the subject is not in fact the undergoer of the state described in the input verb.

The comitative reading of the reciprocative **-ana** in these examples suggests that the element with which the SUBJ(ect) is having a joint venture, so to speak, may have composite semantic interpretation of complement of company, conveyed by its grammatical expression through cliticization, while its agentive role is assumed but not grammatically expressed as such.

With experiencer verbs such as **woona** "see" the comitative reading appears to be excluded:

61. **Nantto ki - ho - mo - on - an - a ikaaro piili**
pN sp tm 1.om see rcp tm 8.cars nm.two
I saw Nantto with two cars/**Nantto and I saw two cars.* [*]

It might be said that the example (61) is equivalent to that of (62):

[*]

62. **Ki - ho - mo - on - a Nantto ni ikaaro piili**
sp tm 1.om see tm pN cp 8.car nm.two
I saw Nantto with two cars/I saw Nantto and two cars.

But in (61) what is *seen* are Nantto and the cars simultaneously or as an integral part of the object of vision. In (62) that is not necessarily the case, for it is ambiguous. Hence (62) is different both grammatically and semantically. In any case neither (61) nor (62) admit the comitative reading: "Nantto and I saw two cars".

These puzzling grammatical facts about -ana appear to suggest that the canonical reading of the reciprocative is but a tiny part of the integral meaning of the morpheme. Although the investigation of the different grammatical and lexico-semantic functions of the reciprocative extension morpheme are within the bounds of this research, the articulation of the findings with the theory of the lexical mapping may not as yet be attained. We believe, however, that a more thorough investigation of the role of this morpheme, going beyond its canonical reading within the theory of lexical mapping, might perhaps shed some light.

4.3.2 The double reciprocative

The double reciprocative morpheme construction may be the result of a sequence of a fossilized reciprocative verb form with a regular morpheme -ana. Examples of such verbs include:

63. othukumana "to come together"
okumana "to join to each other"
ohimaana "to come across"
waakakhana "to exchange"

These verbs require a "plurality" of individuals who are undergoers of the same venture the undergoing of which is semantically understood as reciprocal. Hence,

these verbs usually require a "plural" SUBJ(ect). But if the information required is not the reciprocity in itself, but with whom it takes place, then a reciprocative morpheme -ana occurs with the comitative reading, which introduces a comitative OBJ(ect) NP or complement of company, as in (64.a-b).:

64.a **Ki - ho - ɯwa - akakhan - an - a Mariamu kalupeti**
sp tm 1.om exchange rcp tm pN 1.bras
I exchanged the bras with Mariamu [*]

64.b **Zeena kha - na - a - thukuman - an - a ɯapuro**
pN ng tm 2.om join rcp tm 6.place
Zeena has never had mixed company with

mapica-okhwa [*]
6.prostitutes
prostitutes

This construction no longer requires a plural subject NP; instead, the newly introduced NP behaves grammatically as an NP introduced by the causative morpheme **-iha** with the comitative reading (see (4.2.1.2)).

However, there are examples of the double reciprocative sequence in which it is possible to analyse the input verb, detaching it from the two morphemes. Here again one may distinguish two types of sequence: one in which the sequence and the verb form a unitary verb, illustrating what we have described as a process of lexicalization, e.g.:

65.a [WIIWA][ANA] < ag th > "hear/listen" (recip).

Apaakha a - ne - ew - an - a esiito [*]
2.cat sp tm hear rcp tm 7.melody
Cats hear each other through their melody

But,

65.b [WIIWA][ANA][ANA] ——> "WIIWANANA"

< ag th > "understand each other"/"agree"

Paakha kha - no - mwi - iw - an - an - a mwalapwa
1.cat ng tm 1.om hear rcp rcp tm 1.dog
Cat and dog do not get along each other [*]

Similarly, the case of the verb woona "see":

66. [WOONA][ANA][ANA] --> "WOONANANA"

< ag th > "see with each other"/"meet"

[*]

Juuma ho - mo - on - an - an - a mkunya oparasa
pN tm 1.om see rcp rcp tm 1.white 17.post
Juuma met the white man at the administrative post

In some other examples it could be claimed that there is no lexicalization whatsoever. This is the case of an example given spontaneously by our informant. When asked to be closer to the microphone of the tape recorder he said:

67. **Khuli maana wuulumaca o- na - mwaattam - an - iy- a**
Oh since 15.speak 15sp tm be close rcp psv tm
Oh! since to speak is to be close to each other

k - a - attam - an - an - e ala e - ttharuw - e
sp 2.om be close rcp rcp tm 2.dm sp punish tm
let me be so close to it so that it can feel
[my voice]

While the reciprocity is there, the relevant information is that of companionship. Hence the comitative reading prevails over the reciprocative, e.g.: through cliticization. Another example is that of the triadic verbs construed comitatively, such as in (68):

68.a **Sapili ki - ho - m - mah - an - a moono** [*]
pN 1p.sg tm 1.om give rcp tm 3.arm
Sapili and I gave hands [to somebody]/one another

But,

68.b **Sapili ki - ho - m - mah - an - an - a moono**
pN 1p.sg tm 1.om give rcp rcp tm 3.arm
Sapili and I gave hands to each other [*]

While (68.a) is ambiguous, in the sense that it may be interpreted as reciprocal and/or comitative, (78.b) is simply reciprocative, and the second **-ana** stresses the fact that the other individual in the "shaking" of the hands is Sapili and not somebody else.

The comitative reading in the sense that both the "individuals" endure the state of affairs described in the verbs is also conveyed by the double reciprocative morpheme, in both unergative and unaccusative verbs:

69. [WUNTEYA][ANA][ANA] < th > "break together with"

Mpewe ho - ontey - an - an - a moono ekhatera
1.king tm break rcp rcp tm 3.arm 7.chair
The king has his arm broken together with the chair
(i.e. the breaking of the chair and the arm is a unitary process). [*]

The clearest example of double reciprocative morpheme construction in which each of the morphemes appears to introduce a different thematic role is that of the transitivizing morpheme followed by the comitative reading in (70):

70. **Nantto ho - m - mw - an - an - a makampuuci**
pN tm 1.om come rcp rcp tm 1.shepherd

ipuri [*]
8.goats
Nantto and the shepherd brought the goats together

The double reciprocative morpheme -ana confirms that the lexical rule of reciprocalization embraces at least three main syntactico-semantic areas, namely, the reciprocative proper, the comitative, and the transitivizing function. The last function occurs with some unergative verbs.

4.4 The interaction of argument adding extension morphemes

Alsina (1990) thoroughly discusses the ways in which the Mirror principle is reflected in Bantu using Chichewa data. The concept of "Mirror Principle" so called first by Baker (1985), is:

"a generalization about the relationship between morphology and syntax. It says that the order of affixes in a word must match the order in which the syntactic processes associated with those affixes take place." (Alsina (1990))[14].

That is, in a derived verb form, the order of the component morphemes reflects the syntactic distribution and the meaning of the output. On this assumption two thematic extensions are expected to yield different results if their order of sequence is altered.

Without going too elaborately into the questions broached by Alsina, the readings of the different orders of combination of extension morphemes in Emakhuwa are briefly analysed in the following subsections.

4.4.1 The Applicative versus Causative extensions

The interaction between the Applicative morpheme and the Causative is exemplified by the following data:

71. ociseriha "cause to take for somebody"
ocisihera "put on top of"/cause to take for some reason"/?"cause to take for somebody"

olipeliha "cause to get hard for somebody"
olipihera "harden towards something"/"harden for some reason"/ ?"cause to harden for somebody"

owiihera "bring something for somebody"/"bring for some reason"
oweeliha "cause to come for something"

otekeliha "cause to build on behalf of"
otekihera "cause to build for some reason"/ ?"cause to build on behalf of"

waakuvihera "cause to hurry up towards/for something"/?"cause to hurry up on behalf of"
waakuveliha "cause to hurry up on behalf of"

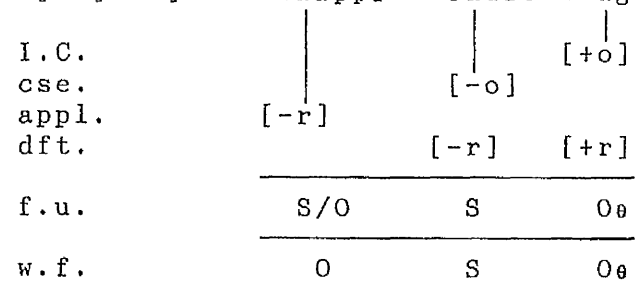
Admitting that the positional interchangibility of the extensions above implies a change of meaning would suggest that there is also a change in relationship of theta roles for each morphemic order. This may be illustrated by the derived verb forms **oweeliha** and **owiihera**:

72.a [[[OW]EL]IHA] < Cause << ag > rat_{appl} >>

I.C.		[-o]	[+o]	
cse.	[-o]			
dft.	[-r]	[-r]	[+r]	
f.un.	S	S/O	O_θ	
w.f.	S	O	O_θ	[*]

Nantto ho - m - we - el - ih - a maasi mwana awe
pN tm 1.om come appl cse tm 6.water 1.child pos
Nantto made his son come for water

72.b [[[ow]ih]era] < ben$_{appl}$ < cause < ag >>>



Nantto ho - m - wi - ih - er - a maasi mwana awe
pN tm 1.om come cse appl tm 6.water 1.child pos.
Nantto brought water for his child

Although the examples provided with each of the morpholexical outputs clearly show the difference in meaning of each morphemic order, we cannot draw satisfactory conclusions, due to the nature of the argument structure of the input verb. Let us therefore take another example:

73.a [[OTEKA][ELA]] < ben < ag th >> "build"(appl.) [*]

Nantto ho - m - tek - el - a enupa muulupale awe
pN tm 1.om built appl tm 7.house 1.brother pos
Nantto has built a house for/on behalf of his brother

73.b [[OTEKA][IHA]] ——> "OTEKIHA"

< cause < ag th >> "build" (causat.) [*]

Nantto ho - m - tek - ih - a enupa muulupale awe
pN tm 1.om built cse tm 7.house 1.brother pos
Nantto has made/helped his brother to build a house

If we were to concatenate (73.a) with (73.b) we would have two derived verb forms, as in (73.c-d):

73.c **Nantto ho - m - tek - el - ih - a enupa** [*]
pN tm 1.om built appl cse tm 7.house
Nantto caused somebody to build a house

muulupale awe
1.brother poss.
for/on behalf of his brother

73.d **Nantto ho - m - tek - ih - er - a enupa**
pN tm 1.om built cse appl tm 7.house
Nantto made on behalf of his brother a house to be built/?Nantto made somebody build a house

muulupale awe [*]
1.brother poss.
for his brother

The reading of (73.d) may be said to be non-distinct from that of (73.c), although my intuitive knowledge of the language is preferentially biased towards (73.c) for the common meaning, while (73.d) appears to have a different meaning. This difference in meaning is conveyed by the fact that in (73.c) the beneficiary is in relation to the building of the house, while in (73.d) the beneficiary is in relation to the causation to build the house. This is illustrated by the thematic structure in (74.a-b):

74.a [OTEKELIHA] < Cause < ag ben th >>

74.b [OTEKIHERA] < Cause < ben < ag th >>

(74.b) is correct, for given that the applicative rule introduces a theta role immediately below the highest theta role, and given that the Causative rule internalizes the highest theta role of the input verb, the beneficiary role may fall between the Cause role and the Causee. This thematic relationship between the Applicative rule and the Causative does not reflect therefore the "surface" order of morphemic concatenation, in the sense that the last in the order is the last in its application. The applicative is always "internal" in hierarchical relation with the Causative rule. Its last position in order of sequence with the causative reflects its externality not in

relation to the theta role of Cause, but in relation to the highest theta role of the input verb to causative rule. But if this is the case, why is it that the two orders are used indifferently?

To answer this question, one needs to analyse each of the morpholexical operations:

74.a [OTEKELIHA] < Cause ag ben th >

I.C.		[-o]	[-r]	[+o]
Cse.	[-o]			
Th.supp.		ø		
Dft.	[-r]			[+r]
F.unders.	S		S/O	Oθ
W.f.	S		O	Oθ

74.b [otekihera] < Cause ben ag th >

I.C.		[-r]	[-o]	[+o]
Cse.	[-o]			
Th.supp.			ø	
Dft.	[-r]			[+r]
F.u.	S	S/O		Oθ
W.f.	S	O		Oθ

These morpholexical operations show the ambivalence of the two orders, in that they both have their causee theta role suppressed. Whatever other reasons there may be, in the morphemic sequence of applicative and causative in which the applicative has the reading of a beneficiary, the causative appears intuitively better in the last position. However, and in conclusion, it may be said that the order between the applicative and the causative does not reflect the Mirror principle in a straightforward manner.

4.4.2 The reciprocative and other argument adding extensions

As for the sequence of the reciprocative morpheme -**ana** with either causative or applicative, we found that the sequential order is thematically and semantically restricted. For instance, the interaction between the applicative morpheme and the reciprocative has the following permutations:

75. **oluma** "bite" **olumana** "bite"/reciprocative
olumela "bite"/applicative
olumelana "bite for one another"
*?**olumanela** "bite one another for some reason"

The only possible interpretation of **olumanela** is one that excludes the beneficiary and, arguably, the instrumental reading in this sequence. This exclusion has a principled explanation. Both the beneficiary and the instrumental theta roles are higher than the theme. The position of the applicative morpheme -**ela** in **olumanela** must index theta roles lower than the theme.

The interaction between the causative morpheme -**iha** and the reciprocative -**ana** is the one whose positional permutations show more clearly the Mirror Principle (Alsina (1990)). Taking again the verb **oluma** "bite", we provide the following permutations in (76):

76.a **oluma** "bite" **olumiha** "bite"/cause
olumana "bite"/reciprocal
olumihana "cause each other to bite"
olumaniha "cause to bite each other"

The difference between **olumihana** and **olumaniha** is reflected not only in the meaning, i.e., the former

means "reciprocate in the causation of biting" and the latter means "cause to reciprocate in the actual biting", but also in the thematic structure of each of the morphemic sequences as may be observed in (76.b-c):

76.b [[OLUMIHA][ANA]] < Cause$_i$ < ag$_i$ th >>.

i.c.:		[-o]	[+o]
cause	[-o]		
rec.:		ø	
df.:	[-r]		[+r]
f.u.:	S		O$_\theta$
w.f.:	S		O$_\theta$

76.c [[OLUMANA][IHA]] < Cause < ag$_i$ th$_i$ >>.

i.c.:		[-o]	[-r]
cause	[-o]		
rec.:			ø
df.:	[-r]	[-r]	
f.u.:	S	S/O	
w.f.:	S	O	

According to Alsina (1990:15), morpheme combinations are constrained by the principles of the lexical mapping theory. One of these constraints is that of suppression of theta role, which requires that only arguments syntactically specified with a negative feature can be suppressed. Hence the suppression of the above roles which are selected by the reciprocalization rule.

From what we have observed until now, we can posit that in a sequence of two or more regular argument adding extension morphemes, in which one of them is applicative with the beneficiary reading, the order of sequence must be such that the applicative morpheme comes immediately after the verb radical. Bearing this

in mind, the sequence of the three morphemes under discussion may yield the following grammatical sentences:

77.a **Mariaamu ni Zeena a - ho - phim - el - ih - an - a**
pN cp pN sp tm measure appl cse rec tm
Mariaamu and Zeena made one another measure

otthu [*]
14.maize flour
maize flour for/on behalf of somebody

77.b **Mariaamu ni Zeena a - ho - phim - el - an - ih - a**
pN cp pN sp tm measure appl rec cse tm
Mariaamu and Zeena made (somebody) measure

otthu [*]
14.maize flour
maize flour for/on behalf of one another

The morpholexical operations resulting from the concatenation of the three lexical entries corresponding to applicative, causative and reciprocative morphemes of the two examples above are as shown in (77.c-d) respectively:

77.c [[OPHIMELIHA][ANA]] < Causi < agi ben th >>

i.c.:		[-o]	[-r]	[+o]
cause	[-o]			
rec.:		ø		
ben. sup.			ø	
def.:	[-r]			[+r]
f.u.:	S			Oθ
w.f.:	S			Oθ

77.d [[OPHIMELANA][IHA]] < Causi < ag beni th >>

i.c.:		[-o]	[-r]	[+o]
cause	[-o]			
rec.:			ø	
csee sup.		ø		
def.:	[-r]			[+r]
f.u.:	S			Oθ
w.f.:	S			Oθ

Since the reciprocative rule suppresses the Causee, the restrictedness on the beneficiary role that would have occurred by the function argument biuniqueness condition of well-formedness does not take effect. On the other hand, given that the beneficiary role is not lexically instantiated, a suppression rule similar to that of theme takes place. And given that the beneficiary theta role grammatically meets the suppression constraint it is omitted.

(77.a) cannot have the reading in which

Causee = Beneficiary

implying a formalization such as:

[[OPHIMELIHA][ANA] < Causei < agi beni th >>

without violating the Function-argument biuniqueness condition, for we have only one reciprocative morpheme. Indeed, this reading would impose another reciprocative morpheme as in (77.e):

77.e Mariaamu ni Zeena [*]
pN cp pN
Mariaamu and Zeena

a - ho - phim - el - ih - an - an - a otthu
sp tm measure appl caus rec rec tm 14.flour
made each other measure the [maize] flour for/on behalf of each other

(Mariaamu and Zeena made each other measure the maize flour for a reciprocal or mutual benefit).

The reading of (77.b) suggests that the theta role Cause is not distinct from Beneficiary, but that the Causee is distinct from both. This is reflected in the corresponding thematic structure and morpholexical operation in (77.d).

Here again the suppression of the Causee takes place, for it is not lexically mapped onto an NP. However, it is hard to tell whether there is precedence between the suppression of the Causee and the application of the reciprocative rule.

Another way of grammaticizing the morphemic sequence in (77.b) is to regard the Cause as external, in which case Mariaamu and Zeena would be the Causee reciprocating with the beneficiary theta role, i.e.:

```
[[OPHIMELANA][IHA]] < Cause < agi    beni    th >>
                        |      |       |       |
          i.c.:         |    [-o]    [-r]    [+o]
          cause      [-o]
          rec.:                      ø
          def.:      [-r]    [-r]            [+r]
                     ------------------------------
          f.u.:        S       S/O             Oθ
                     ------------------------------
          w.f.:        S         O             Oθ
```

This morpholexical operation would correspond to such a sentence as that in (78):

78. **Nantto ha - a - phim - el - an - ih - a otthu**
pN tm 2.om measure appl rec caus tm 14.flour
Nantto made Mariaamu and Zeena measure flour

Mariaamu ni Zeena [*]
pN cp pN
for/on behalf of one another.

As may have been observed, in each of the three morpheme combinations there is always a suppression of one or two theta roles, deriving either from the application of the reciprocative rule or from the Theme suppression rule or both. The gist of these thematic suppressions appears to correlate to the limit number of theta roles that a verb can have. In Emakhuwa there cannot be a verb with four theta roles in its predicate argument structure. Thus, pragmatically, combinations of argument adding extension morphemes beyond two are usually avoided.

4.5 Concluding remarks

The study of the role of thematic extensions in Emakhuwa verbal derivation has provided us with the following facts:

(a) the three morphemes that have been the object of our research, namely, the Applicative, the Causative and the Reciprocative, have different semantic uses, some of which may correspond to syntactic manipulations of theta roles, as in the case of the Applicative rule.

(b) Differentiations at a more abstract level of thematic relations, i.e., thematic-tier, may not always be reflected in the grammar; differences of the theta roles such as:

beneficiary,
source,
recipient or goal

are grammatically expressed as secondary objects.

(c) According to the thematic structure of the input verb, the three morphemes play different syntactico-semantic roles. In unergative and unaccusative verbs, these morphemes exercise a function role of transitivization in a manner that is different from the role they play in other patterns of verbal polyadicity.

(d) As a general feature, both the Applicative morpheme and the Causative alter the grammatical behaviour of "inner" roles of the input verb. From the biuniqueness condition of well-formedness, the inherent object roles become restricted when the rules instantiated by these morphemes apply.

(e) As in matrix verbs, no double agreement is allowed with either the Applicative or the Causative morpheme. Word order does not appear to have any influence on the application of any of the rules indexed by the above morphemes. The Passivization facts have been referred to in a rather scanty manner. This is left for chapter five.

(f) All three morphemes have provided evidence of their occurring at least twice in the same lexical item, instantiating different theta roles in non-fossilized manner. The double occurrence of the Applicative morpheme and the Causative is more productive in monadic verbs, while the Reciprocative appears in other patterns of verbal polyadicityas well. Whatever the number of theta roles that are introduced by the morphemes investigated here, it appears that there is an upper limit on the number of theta roles that each rule may introduce into an input verb. This number is two: one unrestricted theta role and one restricted.

NOTES TO CHAPTER FOUR

1. Given the spontaneous nature of the discourse from which we collated the data, we found that although these uses are possible, they are generally avoided. This is evidenced by the scarcity of examples for some of the uses. In cases where this has happened we have provided the examples using the author's own intuitive knowledge of the language.

2. In another article Alsina and Mchombo (1989) make more sweeping generalizations on the restrictions of the Applicative rule. They link the effect of the Applicative to what they call "semantically case-marked phrases which are often optional arguments of the verb: beneficiaries, goals, instrumentals, etc. Those theta roles which they consider as "direct arguments and generally obligatory: agent, patient, theme, cannot be affected by the Applicative"" (my emphasis).

3. Alsina (1990) puts together the grammatical functions of the "applied" objects Beneficiary and Recipient and terms them "Beneficiary/Recipient Applicatives", by which he suggests that there is fusion of thematic roles, i.e., the "combination of the content of two thematic roles in one single argument, so that they correspond to one single morphosyntactic expression".

4. One of the properties of the Instrument theta role is that it rarely occurs in main clauses. Usually it occurs in nominal clauses, e.g.: relative:

mwaalo wa - a - thikil - el - a aka mkatthe
3.knife 3.sp tm cut appl tm Rs 3.bread
The knife with which I was cutting bread

or sentential copulative constructions, e.g.:

Ola mttontto ola p' u - ne - ett - el - a aka
dem.3.stick dm cp 3.sp tm walk apll tm Rs
This stick is the one with which I (can) walk.

Instrument theta roles can therefore be expressed with monadic verbs, e.g.: **weetta ni mttontto** "walk with a stick", in main clauses, but never by means of the lexical rule of Applicative.

5. This may, perhaps, be language specific. Indeed, commenting on this, Mr. Mann had this to say:

"It strikes me that it is not the locative that is semantically excluded, but the particular force that the locative has when it is used with the applicative extension. As you say, there is no difficulty once the locative is treated as adjunct. But I am not so sure how this is to be put in terms that are not language specific." (Mann, (1990)).

6. Stucky (1985) has claimed that "certain subsets of orders" in Emakhuwa can make the "direct object" agree with the verb and yet the "applied" object still maintains its benefactive thematic role (Stucky 1985, pp 143). She illustrates this claim with her example (6.a) (pp.144):

Mii ki - ho - n - thum - el - a
pron sp tm om buy appl tm
I have bought the bike

ntenga baasikeli-ule
3.messenger 1.bike
for the messenger.

Both from my own intuitive knowledge and from the data I have, this case is suspiciously exotic and unwarranted. In my understanding, the possible readings of the above example are: either one in which **baasikeli-ule** "the bike" is the **beneficiary**, (which is odd), or one in which it is the **Instrument**, (which is possible). Besides, it may well be that the humanness feature that ntenga has may blur the agreement facts here. Indeed, in the Emakhuwa spoken south of the Rovuma river **mtthenka** "angel/messenger" has a plural augment in class 2: **amitthenka** "angels". Our data suggests that there can never be an object marking of theme/patient in the presence of a Beneficiary object.

7. Although grammatically there appears to be no distinction between these two readings, it would be desirable to have some formal distinction that reflects the structural thematic difference. One is definitely a benefactive/malefactive reading and the other a goal (recipient/dative) reading.

8. It must be noted in passing that the ambiguity of this example relative to agreement facts is resolved by extralinguisitic logic, i.e. age of the child and the assumed age of Zeena. In reality either Zeena or mwaana are eligible to trigger agreement in this case.

9. Bresnan and Mchombo (1987) have shown that word order in ChiChewa "interacts with verb morphology. In simple transitive sentences , when there is no object marker on the verb, the object

immediately follows the verb, but when the OM is present" all orders are possible. The difference with Emakhuwa is that OMs are not optional when the NP is in gender [1], while NPs in other genders are devoid of OMs.

10. Alsina and Mchombo's "additional principle of default classification" is designed to ensure "that a theme or patient be mapped onto an objective function in the presence of a higher dependent argument" (Alsina and Mchombo (1989:12(=14)):

(14) Defaults < ... θdpt ... pt/th ... >
[+o]

11. Bresnan and Moshi (1990:172(=66)) regard Alsina and Mchombo's constraint on intrinsic classifications according to which "only one dependent role can be intrinsically classified as [-r] per argument structure", as the asymmetrical object parameter. They formulate this as:

Asymmetrical Object Parameter (AOP):

*θ ... θ
[-r] [-r]

and state that "it is present in asymmetrical object languages such as Chichewa, and lacking in symmetrical languages such as Kichaga".

12. "The process here would be regular in Bemba according to Guthrie. The role below Causator is suppressed, and hence the top role is treated as agent rather than super-agent. Examples like

a - a - kak - ish - a inkuni
sp tm tie cse tm 10.firewood
"he had the firewood tied up"

cf. Guthrie (1962:205)" (Mann, (1990) p.c.))

13. Mr. Mann, commenting on this, has this to say:

"As I see the Causative, the double Causative with an unaccusative input verb is unproblematic, e.g.:

Unaccusative verb: < th >
Unaccusative + Caus. < Cause < th >>
Unaccusative + Cause^2 < Cause < ag th >>;

but with unergative input matrix verbs, there must be thematic re-interpretation, e.g.:

Unergative verb < ag >
Unergative + Cause < Cause < ag >> -> < ag < th >>
Unergative + Cause^2 < Cause < ag th >>

14. Baker (1988), quoting Baker (1985c), postulates this principle in the following terms:

"The Mirror Principle:

Morphological derivations must directly reflect syntactic derivations (and vice versa)".

CHAPTER 5 THE GRAMMAR OF EMAKHUWA EXTENDED VERBS: ARGUMENT DROPPING EXTENSION MORPHEMES

5.0 Introduction

The Passive and the Stative extension morphemes are defined as argument dropping extension morphemes, for they index lexical rules which thematically alter the predicate argument structure of the input verb by suppressing one argument.

Our data have revealed peculiar features of both the Passive and Stative lexical rules. These peculiar features include the passivization and stativization (*potentiativization*) of unergative and unaccusative monadic verbs in which the subject of the Passive and Stative is often not directly semantically related to the verb. The NPs lexically inserted under such contexts often include adjuncts. This feature appears to violate *a priori* one of the fundamental assumptions of LFG postulated in the theory of lexical mapping, namely, that only grammatically interpretable arguments of a verb are sensitive to morpholexical operations and have access to grammatical functions. In this chapter we shall analyse the rules of Passive and of Stative concatenated with the thematic structure of input matrix verbs and with other lexical rules. In this exercise we undertake to find out how the apparent incongruity of our data manifested by the lexical rule of Passive and Stative may be accounted for by the theoretical principles of LFG as reflected in the Lexical Mapping theory.

Concretely, the main objective of this chapter is threefold:

(i) to establish the combinatorial restrictions of both the Passive and the Stative with other extension morphemes;
(ii) to determine whether Emakhuwa is or is not a symmetrical language with respect to object properties;
(iii) to determine the role of non-subcategorized NPs in the process of some verb derivations.

Once these three aspects have been determined, one can find out how generalizable the predictions of the theory of Lexical mapping are in such areas as the Intrinsic Classification Parameter, which is said to be responsible for languages showing symmetrical or asymmetrical object properties; the reflex of the Mirror Principle in morpheme concatenations, and the subject well-formedness condition. All of these prove problematic with Emakhuwa data.

Methodologically this will be achieved in two steps:

(a) by analysing the Passive and Stative lexical rules applied to verbal lexical forms with different patterns of polyadicity in which the restrictions of both Passive and Stative rules will be highlighted.

(b) By analysing the Passive as well as the Stative rule interacting with other features of objecthood, such as cliticization or object marking, on the one hand, and with applied, causativized and reciprocalized verb forms, as well as non-subcategorized NPs, on the other.

5.1 The Passive construction and objecthood

As has been observed in (3.3.2), passivizability is one of the main variables in a transitivity diagnostic test for the status of objecthood of an NP in a non-subject position (Alsina and Mchombo (1989), Bresnan and Moshi (1990), Hyman and Duranti (1982)).

Bresnan's earlier work on the nature of the Passive rule within the lexical theory (Bresnan (1982)) characterizes it in the following terms:

"Passivization changes a transitive lexical form whose **subject** is agent and whose **object** is theme to a grammatically intransitive verb form (that is, one **lacking an object function**"), (my emphasis).

The stress on the fact that:

(a) the subject NP has to be agent,
(b) the corresponding thematic role of the object or the NP in non-subject position has to be theme

and the implied suggestion that "lexical forms lacking an object function" cannot be passivized reflects the traditional treatment of Passive then prevailing in the different theories of Grammar. Essentially this treatment relates the passivizability of a lexical verb form to the particular theta roles contained in it. In this view, only lexical verb forms containing a theta role mapped onto the grammatical function object can be passivizable. In other words, objecthood plays a conditioning role in passivization. However, recent developments of the Lexical or A-structure theory formulate and formalize the Passive rule in such a fashion that the emphasis on objecthood is shifted.

Instead, it refers to the thematic hierarchy rather than the specific theta roles involved. This may be illustrated from the formulation of the morpholexical operation of the Passive lexical rule in the works of Bresnan and Kanerva (1989), Alsina and Mchombo (1988, 1989), Bresnan and Moshi (1990:169) (see also (1.5.3.2.3) above):

"The Passive suppresses the highest role (the logical subject) of a verb".

Formalizing this characterization of the Passive lexical rule, Bresnan and Moshi (1990:169(=60)) put it as in (1):

1. Passive $\hat{\theta}$ → $\hat{\theta}$ | ø

The formulation of the lexical rule of Passive as a process that suppresses the highest theta role of a given predicate argument structure eliminates a potential difficulty that the grammar of Emakhuwa would impose on the traditional view of Passive, i.e., the linkage of passivization with objecthood. As with the cliticization criterion of objecthood earlier observed (3.3.2.6) in Emakhuwa, passivizability occurs even when the predicate argument structure of a given verb does not have an inherent theta role which is canonically mapped onto the grammatical function object. However, the passivizability of such kinds of verbs brings in another battery of theoretical complications, namely, the NPs standing in the subject position to the Passive may thematically speaking not be subcategorized by the input matrix verb, e.g.: adjuncts. To treat such passivizable non-thematic object NPs as standing in

object position fits in well with Grimshaw's analysis (see: (3.2.2.2)). But, however interesting Grimshaw's theory may be, we do not pursue it here. Instead, our main thrust is to prove, *inter alia*, that objecthood, though relevant for some verbs, is not essential to verbal passivization (5.1.1) nor is it to the application of the Stative lexical rule (5.2.1) in Emakhuwa.

5.1.1 The Passive lexical rule and the monadic verb

We have already categorized monadic verbs into two main groups, according to whether the highest theta role of their predicate argument structure is agent or theme (see: (3.2.1.1)). These groups are: unergative verbs, the passivizability of which is analysed in (5.1.1.1), and unaccusative verbs, analysed in (5.1.1.2).

5.1.1.1 The unergative verb and the Passive

The predicate argument structure of unergative verbs is monadic, i.e., it lacks an inherent "inner" theta role identifiable as theme. In this sense, one may predict that, in the light of Bresnan and Kanerva's formulation of Passive, there cannot be passivization within monadic verbs without nullifying the input lexical verb. For by suppressing the only theta role, one deprives the verb form of a subject, which violates the subject condition of well-formedness. However, passivization of monadic verbs has been recorded in our data, which, in terms of the lexical mapping theory, suppresses the only inherent theta role available.

2. [OKHUWA][IYA] < ag > "shout"/Passive.
   |
   [-o]

Passive: ø

In such an event, the *recovery*, so to speak, of the input matrix verb in its derived form is effected by the introduction of a non-subcategorized NP, i.e., whose lexical insertion does not derive from the requirements of a lexical mapping onto an inherent theta role of the input verb. This *guest* NP is immediately promoted to the grammatical function of SUBJ(ect) as may be observed in the examples below:

3. [OVIRA][IYA] < ag > "pass by"/Passive:

	[-o]
Passive:	ø [T9]

J.L. owaani wawe kha - w - aa - vir - iy - a
pN 17.home poss ng 17sp tm pass psv tm
J.L.'s home was not passed by

4. [WEETTA][IYA] < ag > "walk"/Passive:

	[-o] [T6]
Passive:	ø

Salaama, n'we o - ne - ett - iy - a ni makutha
Fine 17.dem 17sp tm walk pass tm cp 6.knees
Fine, there is walked with the knees
(i.e., everything is peaceful)

5. [ORUPARUPA][IYA] < ag > "sleep"/Passive:

	[-o] [T9]
Passive:	ø

Vale kh - u - na - ruparup - iy - a yiih!
16.dm ng 14.sp tm sleep psv tm ngp
At that moment was not slept together yet

(Note the apparent contradiction in the agreement between the locative demonstrative vale "there" and the dummy subject prefix in class/gender [14])

6. [OWA][IYA] < ag > "come"/Passive:
|
[-o]
Passive: ø

E - ne - er - iy - a nyeenyu o - wi - iy - e wonno
7sp tm say psv tm pro 17sp come psv tm 17dm
It was said: you, let here be come
(i.e., could you come here, please) [T8]

Observing the type of non-subcategorized NPs that are called upon to *rescue* the passivized unergative verbs, by being promoted to subject position, the examples above show a common denominator: when the derived verb is tensed all the NPs are either locative nouns (ex.:3) or the subject prefix is in a pronominal or anaphoric (dummy) locative noun class. The example (5) may well be integrated in this since it is headed by a locative.

5.1.1.2 The unaccusative verb and the Passive

The same argument as that posited in respect of unergative verbs could be adduced against the passivizability of unaccusative verbs. In the light of the suppression of the highest theta role, passivized unaccusative verbs lose the sole theta role of their predicate argument structure. It would follow, thus, from the subject well-formedness condition, that this is disallowed.

7. [OVOLA][IYA] < th > "cool down"/passive
|
[-r]
Passive ø

However, as with the examples of passivized unergative verbs above, we have recorded examples of passivized unaccusative verbs, some of which are presented below:

8. [OKHWA][IYA] < th > "die"/Passive:

	[-r]
Passive	ø

Khalayi vaa kha - w - aa - khw - iy - a
Adv 16dm ng 17sp tm die psv tm
In those times there was not died

ela enanna ela ela [T4]
7dm 7. way 7dm 7dm
this manner

(Note the apparent incongruity between the subject NP **khalayi vaa** "long time ago" and the subject prefix in gender [17].)

9. [OLULA][IYA] < th > "cool down"/Passive:

	[-r]
Passive	ø

[T1]

O - viruw - iy - a n'wo o - lul - iy - e
15sp be angry psv tm 15.dm 15sp cool psv tm
Let the being angry be cooled down (forgive us)

10. [WINCIVA][IYA] < th > "abound"/Passive:

	[-r]
Passive	ø

[T7]

Cowaakuveyaca n'yo, maana w - inciv - iy - a
gp8+15 quick 8.dm conj 17.sp many psv tm
It was swiftly done for there being many
(the job was quickly done for there were many people)

The pattern of NPs or anaphoric (dummy) noun classes prefixed as subjects to passivized unaccusative verbs is similar to that of unergative verbs, i.e., locatives. In addition to locative NPs we found that nouns in class [15] (infinitives and/or gerundives) are also candidates for promotion to subjecthood when both

unergative and unaccusative verbs are passivized. This happens when the verb is conjugationally untensed (see: **winciviya** "being many" in the example (10)). From these examples we are led to arrive at the following conclusions:

(i) Passivization of monadic verbs is possible in Emakhuwa.

(ii) This process involves:

(a) the *dethematization* of the monadic verb. By that I mean, the suppression of the sole inherent theta role of the input verb as well as the impossibility of it being expressed as an oblique ni+NP, i.e., bound to the agent theta role, in the passivized verb form.

(b) the *thematization* of locative or abstract NPs, that is, the introduction of a non-subcategorized NP with features similar to those of an adjunct and often a dummy locative and/or genders [7] and [14], to stand as the grammatical subject of the passivized verb form.

Now, the question is why should the locative be the candidate, *par excellence*, for subjecthood when unergative and unaccusative verbs are passivized? One possible answer would be to regard such verbs as indeed having an inherent theta role locative. This is proposed for a certain type of intransitive verb by Bresnan, when she discusses locative inversion in both English and Chichewa (Bresnan (1990)). Indeed, she considers unergative motional verbs as "ambivalently themelike and agentive", and proposes the following predicate argument structure for these verbs (Bresnan (1990:8(=22)):

11. Verb < th loc >
|
S

Emakhuwa verbs with this kind of predicate argument structure behave like those in Chishona (Harford (1988)) and in Kichaga (Bresnan and Moshi (1990)) in the sense that they pose no problem to passivization.

While Bresnan (1990) attaches the passivizability of verbs with < th loc > argument structure to the **Intrinsic Classification Parameter** in those languages which lack the restriction against the presence of more than one "inner" unrestricted theta role, such as Chishona, Kichaga and, in this case, Emakhuwa, it appears unreasonable to think of unergative verbs such as **okhuwa** "shout" or unaccusative verbs such as **okhwa** "die" as having implicit or inherent locative theta roles. And yet these verbs are passivizable. When passivized, they behave as though they had the above thematic structure.

What Emakhuwa data do, indeed, appear to militate against is any restriction on subcategorized locative NPs in promotion to the subject of passivized monadic verbs. In other words, locative subjectivization in passivized Emakhuwa monadic verbs is not thematically limited to inherent or "internal" locative roles. Indeed, non-subcategorized NPs, such as adjuncts, are also possible candidates.

The reason why the subject of passivized monadic verbs is locative is implicit from the thematic hierarchy of the verbs involved. The theta role which has the lowest prominence in the hierarchy is the locative. As such, it acquires the oblique function by default. Assuming

that the Intrinsic Classification Parameter (Bresnan (1990)) is applicable to Emakhuwa, one would have:

12.

Verb	< th	loc	>
	|	|	
I.c.:	[-r]	[-o]	
Passive:	ø		
Dft.:		[-r]	
F.u.:		S	
W.f.:		S	

In the absence of both agent and theme in monadic verbs by the rule of Passive the lowest theta role, which is locative and intrinsically classified as [-o], is subjectivized.

The introduction of non-subcategorized NPs as the subject of passivized monadic verbs appears to be as sensitive to the principle of thematic hierarchy as the "accusative construction". As earlier observed in (3.1.1.5), the "accusative construction" mechanism introduces a non-subcategorized NP, grammatically linked to a theta role hierarchically lower than the highest role of the input verb. Similarly, the NP introduced into monadic verbs, as a result of the rule of Passivization, has to be mapped onto the theta role locative for the highest theta role is theme. This is in conformity with the semantics of this kind of verb. Since the action or motion described by unergative verbs and the state of affairs described by unaccusative verbs affects the subject itself, when this is dropped, the only predication of the subject left is the location, manner, time or reason why such events take place. Apart from the difficulty of establishing the hierarchical order of theta roles lower than theme, i.e, the order between rational or purpose and locative and between the latter and

"manner" theta roles, we find that any of these three can stand for subject when a monadic verb lacking an "internal" locative role is passivized. The locative theta role introduced by this mechanism encapsulates both temporal and spatial/or place adverbs and adverbs of "manner" are generally expressed by NPs in gender [7/8]. This may be observed if we take the above example (8) and repeat it here as (13) changing, however, its grammatical subject:

13. [OKHWA][IYA] < th > "die"/Passive:

	[-r]
Passive	ø

Khalayi vaa kha - y - aa - khw - iy - a
Adv 16dm ng 7sp tm die psv tm

ela enanna ela ela [T4]
7dm 7. way 7dm 7dm
In those times this manner was not died

We notice that the temporal locative **khalayi** "longtime ago", which is the subject of the passivized verb form in (8), is replaced by the NP **enanna** "manner" in class [7] in the example (13) above. The other possible candidate to subject of this verb is a spatial locative.

Thus, in the demotion of theme by the Passive rule and in the absence of an "internal locative argument" such as in the verb **okhwa** "die", we are left with a verb with no subject:

14. [OKHWA][IYA] < th > "die"/Passive

	[-r]
I.c.:	
Passive:	ø
W.f.:	*ø

All we have remaining of the verb is the location, time, manner or purpose. These are oblique grammatical functions usually assumed by the lowest theta role. Since oblique functions may also be expressed by "non-internal" arguments (Bresnan (1990:19)), and since, by the subject well-formedness condition, there cannot be a verb with no grammatical function subject then non-subcategorized NPs can be introduced into the verb in a rank hierarchically lower than the highest theta role of the input verb. This explains why monadic verbs lacking inherent locative roles can be passivized, and why the introduced subject NP has to be mapped onto theta role locative or onto any other role lower than theme in Emakhuwa.

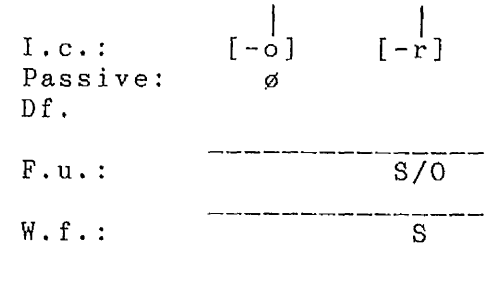
5.1.2 The Passive lexical rule and the polyadic verb

Verbs whose thematic structure has at least one inherent "inner" unrestricted theta role or more are conveniently considered here as structurally polyadic. In the following subsections we shall scrutinize the application of the rule of Passive to these verbs.

5.1.2.1 Dyadic verbs and the Passive lexical rule

Dyadic verbs pose no problems to the application of the lexical rule of Passive. With the suppression of the highest theta role, i.e., the agent, the theme/patient is *promoted* to the subject position:

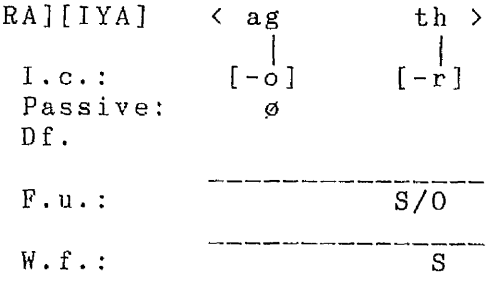
15. [OTHELA][IYA] < ag th >"marry"/Passive[1]



[T7]

Wi - ir - iy - a va mu - ho - thel - iy - a ni ola
17sp say psv tm 16dm sp tm marry psv tm cp 1.dm
Then it was said: now you are married by this one

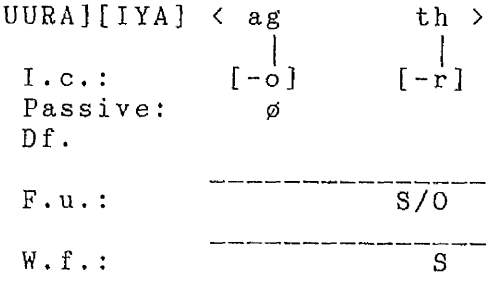
16. [OVARA][IYA] < ag th > "catch"/Passive:



Mkunya ole e - ett - ale vakaani ho - var - iy - a
1.white 1dm sp walk tm 16.adv tm catch psv tm
The white man walked a few yards and was caught

ni kharamu [T7]
cp 1.lion
by a lion

17. [OKHUURA][IYA] < ag th > "chew"/Passive:



[T6]

Min nawaka n - noo - khur - iy - a ni ekonya
pro 5.poss 5.sp tm chew psv tm cp 7.crocodile
As for me, mine [fishing net] has been torn by a crocodile

As may be observed from these examples the agent theta role is expressed as an oblique NP by morphologically indexing it with a preceding connective particle ni "by/with". The expression of the agent theta role in the form of an oblique function is optional. But when expressed, the "animacy" feature of NP is a paramount condition.

The most frequent cases in which the agent in passivized polyadic verbs is not expressed are:

(a) Imperative passive and/or Jussives:

When addressing superiors imperatively, passivized jussive/subjunctive verb forms are usually used as imperatives. Similarly, in interrogative address to superiors, verb forms are passivized (ex.20). In both cases the subject prefix is either a locative NP or a dummy subject prefix:

18. We - emel - iy - e ohoolo n'wo
    17.sp stop psv tm 17.front dm
    Let ahead be stopped

    K - A - ANRIH - IY - E [T8]
    I tm wait psv tm
    and I be waited

19. Wiiriya A - HEL - IY - E mpaani mwaamunna
    It was said sp put psv tm 18.house 1.sister

    aya oyo [T4]
    poss 1.dm
    Then it was said let her sister be put inside
    (Make her sister the heir of the house)

20. Kh - wi - ir - aka makampuuci ole
    cp 17sp say tm 1.herdsman 1dm
    And the herdsman said:

    nyu e - no - khuur - iy - a eyo eseeni [T8]
    pro 7sp tm chew psv tm 7dm 7.pro
    Sir, the thing being eaten what is it?
    (an address to superior or a stranger)

(b) In expletive subjects and/or impersonal Passives, where the subject prefix is morphologically indexed by a dummy subject prefix in gender [7]:

21. [OPHEELA][IYA] < ag th > "seek"/Passive

I.c.:	[-o]	[-r]
Passive:	ø	
Df.		
F.u.:	S/O	
W.f.:	S	

Vale E - M - PHEEL - IY - A
16dm 7sp tm seek psv tm
At that moment what is intended

atthu a - lepac - iy - e ale ale
2.people 2.sp write psv tm 2.dm 2.dm
is for the people who have been inkmarked

yo - on - iy - e [t9]
2.sp see psv tm
to be seen

(c) Other cases in which the oblique agent is omitted are to be found predominantly in narrative texts, in which the scene is set right at the beginning of the story and the characters are assumed as agents:

22. **Vantthekuwa macuwa ale epuri E - HO - HIT - IY - A**
16sp decline 6.sun 6dm 7goat 7sp tm behead psv tm
In the afternoon a goat was slaughtered

A - HO - RUWAC - IY - A amwaantopa ale
2sp tm prepare psv tm 2.cassava 2.dm
the cassava porridge was prepared

A - HO - LYAC - IY - A [T8]
2sp tm eat psv tm
and it was eaten together

where, though **epuri** "goat", and **amwaantopa** "cassava porridge" are lexical items mapped onto theme in their respective verbs, there is no agent oblique function expressed. The agents have been introduced at the beginning of the story and are the assumed characters of the story.

5.1.2.2 Triadic verbs and the Passive lexical rule

From the hierarchical point of view, the subject of a triadic passive verb form must be the NP that is mapped onto the goal, recipient or source theta role. However, by the Intrinsic Classification (IC), there appears to be nothing preventing the theme from being promoted to subject position as well. The examples below illustrate the first observation, namely, the promotion to subject position of the theta role immediately below the agent, once this is suppressed:

23. [WAAKHA][IYA] < ag so th > "snatch"/Passive

		|	|
I.c.	[-o]	[-r]	[-r]
Psv.	ø		
Dft.			
F.u.		S/O	S/O
W.f.		S	O
or		O	S

Wi - ir - iy - a ikole caka owaani
17sp say psv tm 8.coconut tree 8poss 17.home
It was then said: my coconut trees at home

KI - NOWA - AKH - IY - A [T5]
sp tm snatch psv tm
I have had them snatched

24. [OVAHA][IHA] < ag rcp th > "give"/Passive:

		|	|
I.c.	[-o]	[-r]	[-r]
Psv.	ø		
Dft.			
F.u.		S/O	S/O
W.f.		S	O
or		O	S

Olooca kinaphiyale pari min KI - VAH - IY - E
17.shop when I arrive I said: sp give psv tm
When I arrived at the shop, I said: let me be given

peteroliyo [T2]
petrol
petrol

25. [OKANYARI][IYA] < ag rcp th > "win"/Passive:

		|	|	|
I.c.		[-o]	[-r]	[-r]
Psv.		ø		
Dft.				
F.u.			S/O	S/O
W.f.			S	O
or			O	S

P - wi - ir - iy - aka khweeli ene [T5]
cp 17sp say psv tm right adj
It was then said: It is justice

ikole n'yo MU - HO - KANYAR - IY - A
8.coconut tree 8dm sp tm win psv tm
you have had the coconut trees won from you
(you have lost the coconut trees)

5.1.3 The status of Asymmetrical Object Parameter in Emakhuwa - evidence from Passive

Although in the above morpholexical operations of the Passive lexical rule applied to triadic matrix verbs, we suggested that the theme is no longer restricted, we provided no examples in which the NP mapped onto theme has been promoted to subject, nor have we found an example in which passivization was concomitant with cliticization. This would lead one to assume *a posteriori* that Alsina and Mchombo's (1989) constraint on all intrinsic classifications is at work here, that only one "inner" theta role for each predicate argument

structure may intrinsically receive the syntactic feature of [-r]. Since we have two "inner" roles, namely, the recipient and the theme, by the above constraint, the latter becomes classified as [+o], which by default classification becomes [+r], i.e., restricted and consequently unpassivizable, grammatically expressed as OBJθ (Alsina and Mchombo (op.cit.)). This assumption is misleading in the case of Emakhuwa. For by the **Asymmetrical Object Parameter** (Bresnan and Moshi (1990)) or **Intrinsic Classification Parameter** (Bresnan and Kanerva (forthcoming)), languages may be typologically differentiated on the basis of whether they have two "inner" roles with the syntactic feature of [-r] or whether they have only one. This would mean that, since Emakhuwa allows only one NP to show object properties, it must, like Chichewa, have only one inner unrestricted theta role.

However, as earlier observed ((5.1.1.1),(5.1.1.2)), passivization of monadic verbs having or behaving as though they had the thematic structure akin to:

< th loc >

occurs in Emakhuwa but not in Chichewa. Thus, it is no surprise if Emakhuwa does not behave like Chichewa in the passivization of triadic verbs. Indeed, unlike Chichewa, theme is passivizable in triadic verbs, as (26.a-b) illustrates:

26.a **Makampuuci ha - akh - iy - a ipuri** [*]
1.herdsman tm snatch psv tm 8.goats
The herdsman has been snatched the goats

26.b Ipuri ci - ha - **akh - iy - a makampuuci** [*]
8.goats 8.sp tm snatch psv tm 1.herdsman
The goats have been snatched from the herdsman

The fact that passivization in Emakhuwa not only precludes cliticization (26.b) but also allows both the theme and the goal to be subjectivized (26.a-b) creates an additional difficulty in determining the status of Asymmetrical Object Parameter in Emakhuwa. What follows is an attempt to determine the relationship of the two properties of objecthood, i.e., passivization and cliticization, by analysing the interaction of the rule of Passive with other lexical rules which introduce theta roles in the different patterns of verbal polyadicity, including the "accusative construction".

5.1.3.1 The Applicative and Passive co-occurrence

It has been established that both the Applicative rule (see:(4.1)) and the Passive rule (see:(5.1)) can be applied to all patterns of verbal polyadicity. We have also found out which roles are introduced by the Applicative rule in each of the different patterns of polyadicity. Recapitulating briefly section (4.1.2.1), we have suggested that the applicative rule in monadic verbs cannot have theta roles interpreted as beneficiary and/or instrument. With primitive unergative verbs the Applicative rule introduces a rational theta role which is mapped onto the grammatical function OBJ(ect) as though it were theme. Otherwise unergative verbs may only be subject to the Applicative rule with a benefactive reading if they are perceived as dyadic, through the operation of the "accusative construction", by which a non-subcategorized NP with the reading of a theme role is introduced. In unaccusative verbs the Applicative rule introduces locative and other theta roles lower than theme. In unaccusative attributive verbs the rule of Applicative introduces abstract locative theta roles akin to goal.

Having no other higher "inner" roles, the theta roles introduced by the Applicative rule into monadic verbs, though they may be syntactically expressed as if they were theme, must be intrinsically classified as oblique, hence, receive the syntactic feature of [-o]. Thus, the Applicative rule creates the condition for the Passivization rule to apply in both unergative and unaccusative verbs, as may be observed in (27) and in (28) respectively:

27. [OWA][ELA][IYA] << ag > rat_{app}> "come"/Appl/Passive

I.c.:	[-o]	[-o]
Passive:	ø	
Dft.:		[-r]
F.u.:		O/S
W.f.:		S

Maasi a - ho - we - el - iy - a ni Zeena [*]
6.water 6sp tm come appl psv tm cp pN
The water has been come to/for by Zeena
(i.e. Zeena came and fetched the water)

28. [OWULUWA][ELA][IYA] << th >loc_{app}> "fall/Appl/Pas"

I.c.:	[-r]	[-o]
Passive:	ø	
Df.:		[-r]
F.u.:		O/S
W.f.:		S

[*]
Mmwaapuni mu - ho - wuluw - el - iy - a ni naakooko
18+3 pot 18sp tm fall appl psv tm cp lizard
The pot has been fallen into by a lizard

Disregarding the fact that theme in unaccusative verbs is different from theme elsewhere, in the sense that it is always intrinsically classified as either [-r] or [+o], then the passivizability of the applied locative in (28) must be attributed to the fact that the

Intrinsic Classification Parameter in Emakhuwa is such that the underlying predicate argument structure of a given verb has two unrestricted "inner" theta roles. By the same token one would assume that triadic matrix verbs, as well as applied dyadic verbs (which structurally become triadic), may have either the beneficiary/recipient/source object or the NP mapped onto the theme role as the grammatical subject when the rule of Passive applies to them, as demonstrated earlier in example (26.a-b). Examples of the co-occurrence of the Applicative and Passive may be observed in (29.a-d) and in (30.a-d):

29.a [OTHUMA][ELA] < ag ben$_{appl}$ th > "buy"/Appl.

I.C.Param.:	[-o]	[-r]	[-r]
Def.class.:	[-r]		
F.undersp.:	S	O/S	O/S
W.f.c.:	*S	O	O

or:

29.b [OTHUMA][ELA] < ag ben$_{appl}$ th > "buy"/Appl.

I.C.Param.:	[-o]	[-r]	[+o]
Def.class.:	[-r]		[+r]
F.undersp.:	S	O/S	O$_\theta$
W.f. c.:	S	O	O$_\theta$

[*]

Nantto ho - m - thum - el - a epuluca mwaaruusi
pN tm 1.om buy appl tm 7.blouse 1.girl
Nantto has bought the girl a blouse

29.c [OTHUMELA][IYA] < ag ben$_{appl}$ th > "buy"/Appl/Psv.

I.C.Param.:	[-o]	[-r]	[-r]
Passive:	ø		
F.undersp.:		O/S	O/S
W.f.c.:		S	O

Mwaaruusi ho - thum - el - iy - a epuluca ni Nantto
1.girl tm buy appl psv tm 7.blouse cp pN
The girl has been bought a blouse by Nantto [*]

29.d [OTHUMELA][IYA] < ag ben$_{appl}$ th > "buy"/Appl/Psv.

I.C.Param.:	[-o]	[-r]	[-r]
Passive:	ø		
F.undersp.:	O/S		O/S
W.form.c.:	O		S

[*]
Epuluca e - ho - thum - el - iy - a mwaaruusi
7.blouse 7sp tm buy appl psv tm 1.girl
The blouse was bought for/to the girl

30.a [WAAKHA] < ag so th > "snatch"

I.C.Par.:	[-o]	[-r]	[-r]
Def. cl.:	[-r]		
F.under.:	S	O/S	O/S
W.f. c.:	*S	O	O

or:

30.b [WAAKHA] < ag so th > "snatch"

I.C.Par.:	[-o]	[-r]	[+o]
Def. cl.:	[-r]		[+r]
F.under.:	S	O/S	Oθ
W.f. c.:	S	O	Oθ

[*]
Nantto ho - mwa - akh - a epuluca mwaaruusi
pN tm 1.om snatch tm 7blouse 1.girl
Nantto has snatched from the girl a blouse

30.c [WAAKHA] < ag so th > "snatch"

I.C.Par.:	[-o]	[-r]	[-r]
Passive:	ø		
F.under.:		0/S	0/S
W.form.:		S	O

[*]

Mwaaruusi ha - akh - iy - a epuluca (ni Nantto)
1.girl tm snatch psv tm 7blouse cp pN
The girl had a blouse snatched (by Nantto)

30.d [WAAKHA] < ag so th > "snatch"

I.C.Par.:	[-o]	[-r]	[-r]
Passive:	ø		
F.under.:		0/S	0/S
W.form.:		O	S

Epuluca e - ha - akh - iy - a mwaaruusi [*]
7.blouse 7sp tm snatch psv tm 1.girl
The blouse has been snatched from the girl

As we have observed, the examples (29.a-b) and (30.a-b) have alternative syntactic feature assignment to the theta role theme, either [-r] or [+o]. The Applicative selects the latter classification. This follows from the biuniqueness condition of well-formedness, which prevents a lexical verbal form from having two NPs with the grammatical properties of object-marking. When the highest theta role is suppressed by the Passive rule, then the classification of theme as [-r] is no longer constrained. Hence theme, as well as beneficiary, can be subject of the Passive triadic verb.

However, if we take into consideration the interaction of the two main manifestations of objecthood in Emakhuwa, namely, object marking and passivizability in the observation of the passivized verb forms above, one

interesting fact emerges, e.g.: object marking is absent in (29.d) and (30.d). As has been shown in (3.3.1) and (4.1.3.1), object marking is motivated simultaneously by gender [1] and by thematic hierarchy of "dependent" or "inner" theta roles. Since the NP lexically inserted under the grammatical function (primary) object is in gender [-1] in the above examples, let us give another example, as in (31), in which both "inner" unrestricted theta roles are in

GENDER 1/ [animate, human].[2]

[*]

31.a **Nantto ho - m - thum - el - a mthiyana mwaana**
pN tm 1.om buy appl tm 1.woman 1.baby
Nantto has bought the woman a baby
Nantto has bought the baby a woman

[*]

31.b **Mthiyana ho - thum - el - iy - a mwaana ni Nantto**
1.woman tm buy appl psv tm 1.baby cp pN
The woman has been bought a baby by Nantto
The baby has been bought a woman by Nantto

31.c **Mwaana ho - thum - el - iy - a mthiyana** [*]
1.baby tm buy appl psv tm 1.woman
A baby has been bought for the woman
A woman has been bought for the baby

The lack of object marking in passivized verb forms, when these conditions are created, brings us back to *square one* insofar as the true status of the Intrinsic Classification Parameter of Emakhuwa verbs is concerned. Alsina and Mchombo (1989) claim that this is "a consequence of the IC constraint", which states that there can be no more than one "inner" unrestricted role per argument structure. Thus, "once a form undergoes passivization, it cannot take an object prefix", for there is only one internal unrestricted role. But Emakhuwa has got two of them. By the monotonicity

constraint, we cannot alter the intrinsic classification [-r] of either theme or beneficiary in cases where either one is the subject of the Passive. And yet neither shows object marking when the other is the subject. It appears unreasonable therefore to ascribe to the IC constraint the lack of object marking in passivized Emakhuwa verb forms.

If Alsina and Mchombo's explanation is to be considered an unsatisfactory one, insofar as Emakhuwa data is concerned, the idea of typologically subdividing languages, on the basis of the I.C. Parameter, into *truly* and *untruly* symmetrical ones, contained in Bresnan and Moshi's statement below, does not appear alluring either. For not only does it fall below the desirable level of generalization, but it also appears to undermine the very underlying idea of the explanatory power of the Intrinsic Classification Parameter:

"...what is critical in the asymmetrical object type is that only one argument at a time can have [(these)] object properties. If one argument is passivized the other cannot be object marked or reciprocalized. In a **true symmetrical object language**, in contrast, different arguments can *simultaneously* (sic) have primary object properties" (Bresnan and Moshi (1990)) (my emphasis).

As emerges elsewhere in Bresnan and Moshi (1990:175), object marking in Kichaga is independent of whether the theta role onto which the NP is mapped is restricted or unrestricted. Thus, in the sense that object marking in Emakhuwa is also dependent on gender, the **Intrinsic Classification Parameter** is irrelevant to object marking both in Emakhuwa and in Kichaga. Besides, insofar as it is meant to explain object marking, the Intrinsic Classification Parameter and/or the

Asymmetric Object Parameter need to be tested in such languages as Kihaya (Duranti and Byarushengo (1977)), which have multiple object marking:

32.Kat' **a - ka - ki - bi - mu - cumb - il - il - a - mu**
he PST it them him cook APP APP A LOC
"Kato cooked them(bananas) in it(pot) for him (child)"

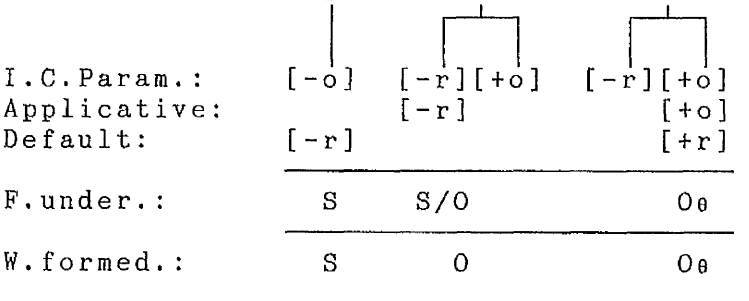
(Due to Duranti (1979))

If passivizability of NPs is conditioned by the Intrinsic Classification Parameter, and object marking is not, then the latter cannot be as much a "primary object property" as the former.

Perhaps in line with the *cyclicity* principle, the lack of object marking has more to do with the nature of the grammatical relationship between the remnant theta roles of a verb when the highest theta role is suppressed by the rule of Passive, than with the IC constraint. Intuitively, the nature of the grammatical functions in this situation would be that neither one is the object of the other. Hence the relationship between the two is akin to that of intransitive verb forms. That is, since an argument cannot, by the Function-argument Biuniqueness condition, be simultaneously expressed as object and subject of the same clause, when the beneficiary theta role is the subject it cannot be object-marked, and the theme cannot cliticize, for it does not entertain object relationship with the beneficiary theta role. This applies conversely. This reminds us of the relationship between Instrument and Theme (see: (4.1.3.1), example (19.a-b)), where, when the theta role Instrument is made prominent the Patient/Theme becomes restricted, and when the Patient/Theme is prominent, the Instrument becomes restricted. Hence, the choice of a negatively

marked syntactic feature value [-r] for a theta role determines the reciprocal choice of a positively marked feature value [+o] for the other. If this type of relationship of inner roles applies to beneficiary roles as well, then one may suggest that morpholexical operations of the Applicative rule ought to be revised in a manner akin to that of (33.a-c), which repeat earlier examples (31.a-c):

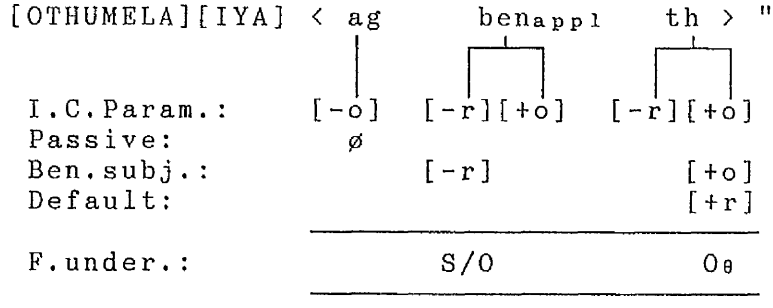
33.a [OTHUMA][ELA] < ag ben$_{appl}$ th > "buy"/Appl.



[*]

Nantto ho - m - thum - el - a mthiyana mwaana
pN tm 1.om buy appl tm 1.woman 1.baby
Nantto has bought the woman a baby
Nantto has bought the baby a woman

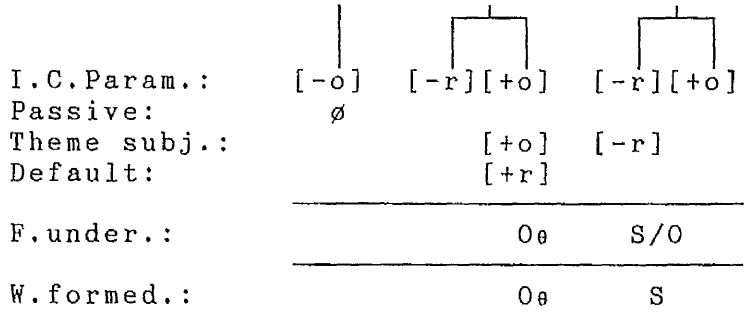
33.b [OTHUMELA][IYA] < ag ben$_{appl}$ th > "buy"/Psv.



[*]

Mthiyana ho - thum - el - iy - a mwaana ni Nantto
1.woman tm buy appl psv tm 1.baby cp pN
The woman has been bought a baby by Nantto
The baby has been bought a woman by Nantto

33.c [OTHUMELA][IYA] < ag ben$_{appl}$ th > "buy"/Psv



Mwaana ho - thum - el - iy - a mthiyana [*]
1.baby tm buy appl psv tm 1.woman
A baby has been bought for the woman
A woman has been bought for the baby

Thus, cliticization as a manifestation of object property of NP, is lost in Emakhuwa:

(a) in Passivization:

as a consequence of the intransitivization inherent in the rule of Passivization, and not as a consequence of the constraint of intrinsic classification.

(b) In the Applicative construction:

cliticization of NP associated with Theme is lost, due not to the constraint on the number of theta roles which receive the classification of [-r], but to selectional restrictions generated by the internal relationship between these syntactic values. These restrictions are spelt out by the function-argument biuniqueness condition of well-formedness.

This suggests that every lexical rule affects the intrinsic classification of theta roles not individually, but in the way that they are related to one another.

On the morpheme order restrictions between the Applicative and the Passive, Alsina's theory of Lexical mapping claims that, under certain conditions, there can be "applicativized" Passive verb forms (Alsina (1990)). To the best of our knowledge, this has been confirmed only by Chichewa data. The examples we have recorded in Emakhuwa militate against any instantiation of the morphological sequence implied in this claim. However, the conditions under which Passive verb forms could be "applicativized" are as existent in Emakhuwa as in Chichewa, as the following example (34) shows:

34. [OTTHUKA][IYA] < ag th > "arrest"/Passive

		[-o] [-r]
I.C.:		ø
Passive:		
F.und.:		O/S
W.form.:		S

34.a **Zeena ho - tthuk - iy - a** [*]
pN tm arrest psv tm
Zeena has been arrested

If we were to ask or state the "reason why" Zeena has been arrested, we would have to use the Applicative morpheme [ela]. Since the highest theta role in the passivized verb form above is theme, the theta role to be introduced by the Applicative, as a general rule, will be lower than theme, and in this case, it would be the "rational" or motive theta role. This would suggest a morphemic sequence of:

35. [OTTHUKIYA][ELA] < th rat_{appl} >"be arrested"/Rat.

	[-r]	[+o]
I.C.:		[+r]
Def.:		
F.und.:	O/S	O_θ
W.form.:	S	O_θ

But neither the author's intuitive knowledge of the language nor the data allow the sequence of the Passive and the Applicative morphemes as in (35.a):

35.a *Zeena ho - tthuk - iy - el - a owalele. [*]
pN tm arrest psv appl tm 14.prostitution
Zeena has been arrested for prostitution

Instead, the above example will have the sequence of the morphemes inverted as in (35.b):

35.b Zeena ho - tthuk - el - iy - a owalele [*]
pN tm arrest appl psv tm 14.prostitution
Zeena has been arrested for prostitution

Assuming that the whole argument of "applicativized" Passives relies heavily on the cyclicity principle, the oddity of Alsina's claim lies not so much in the theoretical side of it, but above all in the pragmatic plausibility and discourse experience, neither of which is confirmed in the Emakhuwa language[3]. Indeed, we can invert the subject of (35.b) as in (35.c):

[*]
35.c Owalele o - ho - tthuk - el - iy - a Zeena
14.prostitution 14sp tm arrest appl psv tm pN
Prostitution has been the motive for Zeena to get arrested

and yet the order of combination of the two morphemes remains the same. The following are some examples recorded from our data in which, notwithstanding its topmost position in the thematic structure, the Applicative morpheme is not preceded by the Passive morpheme in the applicative Passive verb form. Hence the mirror principle is not morphologically reflected:

36. **Eneeriya, uuhn! o - hapuw - el - iy - eke wonno**
    It was said interj 17sp turn appl psv tm 17dm
    He said, please, let here be turned to [T5]

37. **Ole owiikaani ole khiiraka vaavale**
    1.dm 1gn+17little 1.dm said 16.dm
    And the last born(n.tuplex) said from where

    w - a - atal - el - iy - e awe vale [T8]
    16sp tm lay appl psv tm Rs 16.dm
    he was laid: ...

These examples show once again that the actual *physical* or *phonological* order of derivational affixes may not reflect the Mirror Principle as straightforwardly in Emakhuwa as in Alsina's Chichewa data.

In brief, the interaction between the Applicative and the Passive rule shows that, insofar as the Asymmetrical Object Parameter is concerned, Emakhuwa is somewhere inbetween Chichewa and Kichaga:

(i) Like Chichewa, it is an asymmetrical language, insofar as it allows only one object manifestation at a time.

(ii) Like Kichaga, it is symmetrical, for it has two unrestricted "inner" roles, and both the beneficiary and patient theta roles can be taken as subjects of Passive verb forms.

(iii) It is different from both, insofar as object cliticization is linked with gender in Emakhuwa, and insofar as only Emakhuwa allows non-subcategorized roles such as adjuncts to be subject of Passive.

(iv) It is different from Chichewa in that the Mirror Principle is not phonologically evident in the "applicativized" passive verb forms.

(v) It is different from Kichaga, for this allows cliticization of objects in passivized verb forms and Emakhuwa does not.

5.1.3.2 The Causative and Passive co-occurrence

The co-occurrence of the Causative and Passive extension morphemes must derive from the concatenation of the two lexical rules they index combined with the thematic structure of the host verb forms. As we have posited in (4.2.1.1), the Causative introduces a theta role higher than the topmost role of the input verb while the Passive suppresses the latter. Thus, if we concatenate examples (38) and (39), we obtain the three morpholexical operations set out in (40):

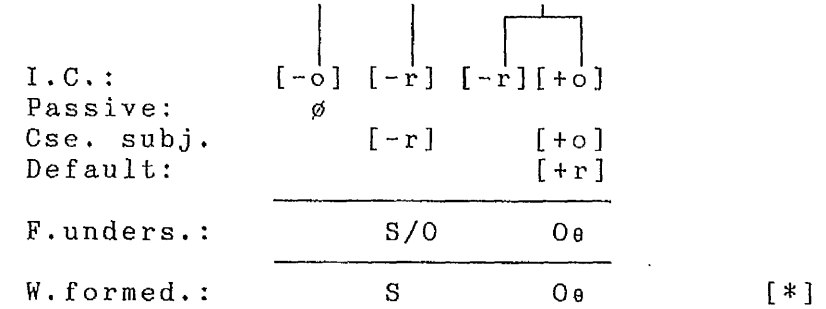
38. [OLUMA][IHA] < Cause < ag th >> "bite"/Causative

Nantto ho - m - lum - ih - a mwalapwa nikhuva [*]
pN tm 1.om bite cse tm 1.dog 5.bone
Nantto has made the dog bite the bone

39. [OLUMA][IYA] < ag th > "bite"/Passive

Nikhuva ni - ho - lum - iy - a ni mwalapwa [*]
5.bone 5sp tm bite psv tm cp 1.dog
The bone has been bitten by a dog

40.a OLUMIHA][IYA] < Cause < ag th >>:



Mwalapwa ho - lum - ih - iy - a nikhuva ni Nantto
1.dog tm bite cse psv tm 5.bone cp pN
The dog has been caused to bite the bone by Nantto

40.b [OLUMIYA][IHA] < Cause <(ag) th >>[4]:

I.C.:	[-o]	([-r])	[-r]
(Passive):		(ø)	
Default:	[-r]		
F.under.:	S		O

Nantto ho - lum - iy - ih - a nikhuva (ni mwalapwa)
pN tm bite psv cse tm 5.bone cp 1.dog
Nantto has caused the bone to be bitten (by the dog)

40.c [OLUMIYA][IHA][IYA] < Cause < (ag) th >>:

I.C.:	[-o]	[-r]	[+o]	[-r]
Passive:	ø			
Theme subj.			([+o])	[-r]
Default:			([+r])	
F.unders.:			(O_θ)	S/O
W.formed.:			(O_θ)	S

Nikhuva ni - ho - lum - iy - ih - iy - a (mwalapwa)
5.bone 5.sp tm bite psv cse psv tm 1.dog
The bone was caused to be bitten by a dog

These morpholexical operations, together with their corresponding examples, show that given that either the Causative or the Passive rule affects the highest theta role of the input verb, either rule is motivated independently of the other. Hence either can precede the other.

Since the Causative rule "objectivizes" the highest theta role of a verb form this would carry all the marks of an object, such as being classified alternatively as [-r] and/or [+o], which according to

the feature chosen would lead to cliticization. This may be observed if **nikhuva** "bone" in (40) is replaced with **mwaana** "baby":

[*]
41.a **Mwalapwa ho - lum - ih - iy - a mwaana ni Nantto**
1.dog tm bite cse psv tm 1.baby cp pN
The dog has been caused to bite the baby by Nantto

41.b **Nantto ho - m - lum - iy - ih - a mwaana**
pN tm 1.om bite psv cse tm 1.baby
Nantto has caused the child to be bitten

(ni mwalapwa) [*]
cp 1.dog
by a dog

[*]
41.c **Mwaana ho - lum - iy - ih - iy - a mwalapwa**
1.baby tm bite psv cse psv tm 1.dog
The baby has been caused to be bitten (by a dog)

The example (41.b) shows that when the Passive rule is embedded within the Causative, the object marking is imposed by the latter. But when the converse takes place, i.e., when the Passive rule is the last in the order of the morpholexical operations, then, as a general feature of the Passive rule, cliticization has no place or role to play. That is, either one renders *invisible* the effects of the other, depending on whether it applies last. This is shown in (41.c). The other interesting element in (41.c) is the presence of a double Passive with the Causative interposed. Although there is a morphological indexation of the first Passive rule reflecting the Mirror Principle, the "syntactic atomicity" is evidenced by the fact that **mwalapwa** "dog" appears in the example not morphologically reflected as the agent of the verb **oluma** "bite", but as a restricted object. The agent of the Cause is also omitted but for different reasons.

As observed earlier, when passivized triadic verbs take the Patient/theme as the subject, the *logical* subject, i.e., the agent, is usually omitted.

So far we have analysed cases in which either rule applies to verb forms whose thematic structure is at least dyadic. But our intuitive knowledge of the language, reinforced by what we have described in (4.2.3.3), makes us think that while it is potentially possible that causativized monadic verbs can be passivized, the converse is not so. The logic of this lies in the fact that passivized monadic verbs have as subject roles lower than theme, e.g.: locative, rational, manner, and so forth. These roles cannot be the "object" of Cause. Hence, they cannot be subject to the rule of Causative. To show this, let us take example (7) and repeat it here as (42):

42. [OWIYA] < loc > "come"/Passive
S

42.a ...**nyeenyu, o - wi - iy - e wonno**
pro 17.sp come psv tm 17.dm
You, sir, let here be come (could you come here)

*[OWIYA][IHA] < Cause < loc >>

I.C.:	[-o]	[-r]
Def.:	[-r]	
F.und.:	S	O/S

***Nyeenyu wonno o - wi - iy - ih - e [*]**
pro 17.dm 17.sp come psv cse tm
Sir, cause here to be come

Summarizing: in Emakhuwa, the Passive and the Causative rules can follow one another reciprocally, as may be observed by the sequence of the morphemes indexing them

in the examples above. When this takes place, the inherent features of the rule applying last prevail over those of the one applying first. This is in accordance with the "syntactic atomicity" principle.

The exceptional cases in which only one order is possible occur with monadic verbs. In these cases only causativized monadic verbs can be passivized. That is, only the sequence:

verb > iha > iya

is possible.

5.1.3.3 The co-occurrence of Reciprocative and Passive

We justified earlier the inclusion of the Reciprocative rule under the argument adding lexical rules rather than here. Given the effects that either lexical rule provokes in the input verb, the concatenation of the Reciprocative and the Passive rules yields different outputs, according to the status of the thematic structure of the verbs with which they co-occur. The effect of canonical verbal Reciprocalization is such that a theta role other than the highest role is suppressed and bound to the highest role. One of the consequences of this operation is the lack of object cliticization.

On the other hand, the effect of Passivization on the input verb is the suppression of the highest role as well as the lack of object marking. Consequently, the Passive and Reciprocative rule co-occurrence has no place in unergative and unaccusative verb forms. For, lacking any other role but the topmost, these verbs cannot be reciprocalized.

In polyadic matrix verbs the co-occurrence of the two morphemes is possible, as in Kichaga, but contrary to Chichewa. Once again, this fact is attributed to the Asymetrical Object Parameter, deriving from an underlying difference in the Intrinsic Classification between Chichewa and Kichaga (Alsina (1990), Bresnan (forthcoming), Bresnan and Moshi (1990)).

Although we can claim that Emakhuwa is similar to Kichaga in this respect, we cannot, however, be sure as to whether Kichaga goes along with Emakhuwa in passivizing reciprocal verb forms whose host is structurally dyadic. In Emakhuwa reciprocalized dyadic verbs are passivizable. In order to show this, let us take the verb **othanya** "discriminate" in (4.3.1.1 ex.:(64)) and repeat it here as (43):

43. [OTHANYA][ANA] < ag$_i$ pt$_i$ > "discriminate"/Rcp.

I.C.:	[-o]	[-r]
Rcp.:		0
Def.:	[-r]	
F.u.:	S	
W.f.:	S	

Akristu kha - a - no - thany - an - a
2.christian ng 2sp tm discriminate rcp tm
Christians do not discriminate against each other

otheene a - naa - ly - an - a [*]
2.all 2sp tm eat rcp tm
they all eat with one another

If we submit the reciprocal verb form **othanyana** "discriminate each other" to the rule of Passive the result is as in (44):

44. [OTHANYANA][IYA] < ag_i (pt_i) >

I.c.:	[-o]	([-r])
Rcp.:		(ø)
Psv.:	ø	
Def.:	ø	ø
F.u.:	ø	ø
W.f.:	*	

That is, we are confronted with the same situation as in the Passivization of monadic verbs. The Passivization of reciprocalized dyadic matrix verbs violates the subject well-formedness condition. However, if both the patient and the agent are suppressed by the Reciprocative and the Passive rule respectively, the only possible theta roles to *rescue* the verb, so to speak, are those lower than theme/patient. Hence the only way that reciprocalized dyadic verbs can be passivized is by introducing, through the "accusative construction", a theta role with the semantic features of "locative", "manner", "reason" or "time". The theta role expressing "manner" can be expressed by NPs either in class [7] or [14]. Thus (44) can be exemplified as in (45) below:

45.a Ekristu kh - i - no - thany - an - iy - a
7.Christianity ng 7sp tm discriminate rcp psv tm
The christian way is not to be discriminated to one another

otheene e - naa - ly - an - iy - a [*]
2.all 7.sp tm eat rcp psv tm
it is for all to eat with one another

or,

45.b Okristu kh - u - no - thany - an - iy - a
14.Christianity ng 14.sp tm discriminate rcp psv tm
The christian way is not to be discriminated to one another

otheene u - naa - ly - an - iy - a [*]
2.all 14.sp tm eat rcp psv tm
it is for all to eat with one another

Examples recorded from our data include the one in (46):

46. [OCUWELANA][IYA] < ag$_i$ pt$_i$ > "know"/Recip.

I.c.:	[-o]	[-r]
Rcp.:		ø
Psv.:	ø	
Def.:	ø	ø
F.u.:	ø	ø
W.f.:	*	

O - **ho - hal - iy - a** eeli asilopwana ru
17sp tm stay psv tm 2.two 2.men cp
There remained two, only men,

masi kh - u - no - cuwel - an - iy - a va [T9]
but ng 14.sp tm know rcp psv tm 16.dm
but at that moment there was not yet any mutual recognition

Both reciprocalized derived or matrix triadic verbs can be passivized, as in Kichaga. The example (47) from our data is thematically coincidental with example (13b) of Alsina (1990), which he shows as ungrammatical in Chichewa.

47.a [OPOHOLA][ELA] < ag inst$_{appl}$ pt > "clean"/Appl.

I.c.:	[-o]	[-r]	[-r]

47.b [OPOHOLELA][ANA]: ——> "OPOHOLELANA"

<ag$_i$ inst$_{appl}$ pt$_i$> "clean"/ins/Rcp.

I.c.:	[-o]	[-r]	[-r]
Rcp.:			ø

47.c [OPOHOLELANA][IYA] < ag $inst_{appl}$ (pt_i) >

I.c:	[-o]	[-r]	ø
Psv.:	ø		
Def.:			
F.u.	O/S		
W.f.:	S		

47.d P - a - kus - iy - e maasi [T_3]
cp 16sp take psv tm 6.water
That is when water was taken

ya - a - pohol - el - an - iy - e oceecilo
6.sp tm clean inst rcp psv tm 17.evening
with which to clean one another in the evening

In brief, the Reciprocative and Passive co-occurrence corroborates the evidence shown in the previous sections, namely, that the Intrinsic Classification Parameter in Emakhuwa behaves as in those languages which have two "inner" roles intrinsically classified as [-r].

By passivizing reciprocalized dyadic verbs, Emakhuwa also demonstrates the fact that non-subcategorized NPs may be called upon to stand as the subject of a verb which otherwise would fail the subject condition. One consequence of this fact is that passivized verb forms cannot be reciprocalized. That is, the only possible order of sequence of the two morphemes is:

48. **Verb > ana > iya.**

5.1.3.4 The Passive and the "Accusative construction"

As early as in (3.2.3), the notion of "accusative or objective construction" was introduced, to describe a mechanism available to Emakhuwa grammar, according to

which a non-subcategorized NP is introduced into a given verb form in such a way that it behaves as though it were part of the thematic structure of that particular verb. Unlike the other NPs introduced by the morpholexical operations of lexical rules this mechanism is carried out with no morpholexical operation morphologically *visible* in the verb. In section (3.2.3) we described this mechanism at length; but, essentially restricted it to features, on the basis of which it could be comparable to the Applicative rule. It was then intuitively assumed that the difference between the two mechanisms was that the "accusative construction", though concomitant with the Applicative, could not introduce NPs with oblique functions in polyadic verb forms. Thus, in monadic verbs it would introduce theme-like roles, while in dyadic verbs it would introduce recipient-like roles, and in triadic verbs it would have no function whatsoever.

Similarly to what happens in any morpholexical operation of an argument adding lexical rule on a monadic verb, the theta role introduced by the "accusative construction" is lower than theme or patient. But given that the verbs to which it is applied lack the theta role theme, the NP introduced behaves as though it were theme, e.g., it may be object-marked by cliticization if in gender [1], as in (49.a):

49.a [OKHUWA] "shout/bark" (unergative)

Mwalapwa	**o**	**-**	**oluma**	**kha**	**-**	**no**	**-**	**khuw**	**-**	**a**	[*]
1.dog	1gp+15		bite	ng		tm		bark		tm	

A biting dog does not bark.

49.b [OKHUWA] "shout/bark"/accusative construction

```
 [*]                                  ┌──── 2.om ────┐
Mwalapwa o - oluma kha - na - a - khuw - a  atthu
 1.dog   1gp+15bite ng   tm  2om bark   tm 2people
A biting dog does not bark (at) people
```

and in the case of passivized monadic verbs it can stand for the grammatical function of subject:

```
┌──────────────────┬──────────────┐
49.c Atthu   kha - a - no - khuw - iy - a  ni mwalapwa
     2.people ng   2.sp tm   bark   psv  tm cp 1.dog

     ooluma                                    [*]
     1gp+15.bite
     People are not barked at by a biting dog
```

As a grammatical mechanism introducing "nonthematic arguments" or "nonsubcategorized objects", that is, those "which do not stand in a direct semantic relation to the main verb" (Bresnan (1990)), the accusative construction, like any other argument adding lexical rule, transitivizes or ditransitivizes Emakhuwa verbs. By so doing, it provides the means, otherwise unavailable, for avoiding the violation of the subject condition in the passivization of matrix monadic verbs and monadic verbs structurally derived through the introduction of nonthematic arguments such as adjuncts.

Since, by the subject well-formedness condition, there cannot be a verb without a subject it would appear that the "accusative construction" is a condition for the passivization of monadic verbs.

5.2 Thematic structure and the grammar of the Stative lexical rule

The major difference between the Passive rule and the Stative is that the latter not only suppresses the highest theta role of the input verb, but also *dethematizes* it. That is, it deprives the input verb of its matrix highest role. In other terms, while the role suppressed in the Passive rule may be optionally expressed, either as an oblique function or as a restricted object, the one suppressed by the Stative is completely *invisible*. In the following sections we confront this property of the Stative rule with the different patterns of verbal polyadicity and determine the restrictions involved.

5.2.1 The Stative rule and the monadic verb

In (2.1.4) we discussed comprehensively the meaning and function of the extension morphemes in the lexical instantiation of verbal derivation. Amongst many features discussed there, was that some verbal lexical items had the same thematic and, indeed, the same semantic interpretation as the outcome of the application of some lexical rules, such the Stative lexical rule. The discussion which follows focuses on this aspect of the Stative rule. Given the peculiarity of this rule, we found very few examples recorded in our data.

5.2.1.1 The unaccusative verb and the Stative rule

By definition unaccusative verbs have only one theta role, e.g.: the theme. Some unaccusative verbs are idiosyncratically stative, in the sense that they phonologically exhibit the morpheme indexing this

lexical rule, share unaccusativity features with it, but are lexically or derivationally unanalysable, e.g.:

50. [OPHWEYA][EYA] = **ophweeya** "get breakable"

This may not only bring some terminological confusion, by way of which unaccusativity may be taken as stativity, but also, and more importantly, lead to the conclusion that, given that the lexical rule of Stative is to render verbs thematically unaccusative, this rule can no longer apply to unaccusative verbs themselves.

The derivation in (51) suggests unequivocally that the thematic structure of unaccusative verbs precludes the lexical rule of Stative:

51. [WOOKOWA][EYA] < th > "get straight"/Stative

	|
I.c.:	[-r]
Stat.:	ø
W.f.:	*

Since this dethematizes the highest theta role of a given verb, verbs which have only one role submitted to this rule would become subjectless. This would lead to the conclusion that, by the subject condition, there cannot be any unaccusative verb form in Emakhuwa subject to the rule of Stative. However, as in the rule of Passive with monadic verbs, the Subject condition in "stativized" unaccusative verbs is saved by the accusative construction, which introduces non-subcategorized theta roles. In this case, locative or other adjuncts, expressed in either class [7] or [14], are entered into the subject position. Hence, unaccusative verbs can be stativized:

52. [woolowa][eya] < th loc > "be lazy"/stve

I.c.:	[-r]	[-o]
stv.:	ø	
dft.		[-r]
f.und.:	S	
w.f.:	S	[*]

WaAmphula o - na - woolow - en'y - a tthiri
17+pN 17.sp tm be lazy statv tm truely
In Nampula there is the state of laziness
(in French: "*On est paresseux a Nampula*")

5.2.1.2 The unergative verb and the Stative rule

Both in unergative verbs of *motion* and of *activity* the subject of stativized unergative verbs is similar to that of passivized unergative ones, i.e., locative, manner, or anything else that can be identified as thematically lower than theme, as may be observed in (53.b):

53.a **Mtthu naa - khum - a mpaani** [*]
1.person tm come out tm 18.house
A person comes out from the house

53.b [OKHUMA][EYA] < ag loc > "come out"/Stative

I.c.:	[-o]	[-r]
Stat.:	ø	
Def.:		
F.un.:	O/S	
W.f.:	S	

Mpaani mu - naa - khum - ey - a [*]
18.house 18sp tm come stv tm
From the house is "comeable"
(A house is a place that one can come out from)

The only example recorded in our data is that in (54):

54. Co - wa - akuv - ey - ac - a n'yo maana winciviya
8gpsp+15 quick stv coll tm 8dm conj 17sp be many
It happened quickly for there was come many [T7]

5.2.2 The Stative rule and the polyadic verb

In the above discussion, we posited that both unaccusative and unergative verbs can potentially serve as an input to Stative verb derivation. However, this possibility, although available to Emakhuwa grammar, is rarely used with these verbs. Polyadic verbs are instead more likely to be stativized than unergative and/or unaccusative ones. But in order for this to take place, two conditions must be satisfied. The section below highlights these conditions.

5.2.2.1 The dyadic verb and the Stative rule

Dyadic verbs satisfy in general terms the conditions under which the Stative rule can apply. However, there are two conditions which underlie the stativization of dyadic verbs: lexical availability[5] and thematic structure. Of these two, the most important is that of lexical availability or optimization of meaning.

Dyadic verbs whose morphophonological configuration is such that their final vowels are phonemically similar to that of the Stative morpheme are morphonologically altered:

55. Waapeya "cook"

55.a [WAAPEYA][EYA] --> waapeeya --> *waapen'ya
"get cooked"

Although the morphonological concatenation is established, the stative verb of **waapeya** "cook", **waapen'ya** is still blocked. This is due to the availability of a lexical item fulfilling that meaning, e.g.: **ottokottha** "get cooked"/"mature".

Another example is that of the verb **opwesa** "break", an active verb corresponding to the unaccusative **ophweya** "get broken". If we submit it to Stative verb derivation as in (56), we notice that in theory this could be acceptable:

56. *[OPWESA][EYA] < ag th > "break"/Stative

I.c.:	[-o]	[-r]
Stv.:	ø	
Def.:		
F.un.:	O/S	
W.f.:	S	

However, the presence in the lexicon of the idiosyncratic unaccusative **ophweya** "get broken", blocks the output of the derivation. Thus, although grammatically possible, the use of **opweseya** "get breakable" does not appear motivated in Emakhuwa.

In terms of predicate argument structure, the Stative lexical rule renders dyadic verbs into thematically unaccusative ones. That is, when dyadic verbs serve as input to Stative verb derivation, the theme becomes the grammatical subject. Examples recorded from our data include the following:

57. [WIIRA][EYA] < ag th > "do"/Stative

Aneera akinaku ale: khuli hin nnaarowa, [T8]
they said the others 2.dm oh! pro sp go
The others said: Oh! we are leaving,

eyo e - he - er - ey - a e - he - er - ey - a
7dm 7sp tm happen stv tm 7sp tm happen stv tm
what has happened has happened.

58. [WOONA][EYA] < ag th > "see"/Stative

Khureera opuha aahn! o - nno - on - ey - a
ng be good 15.enjoy interj sp tm see stv tm
You have had good time, sure, you are visible

oneneva n'wo [T10]
15.fattening 15.dm
from [your] corpulence

59. [OPAKA][EYA] < ag th > "do"/Stative

Masi mwa - aho - khal - a
But sp tm stay tm
But were you

vaavaa va - a - pak - ey - ac - a vaa [T9]
16.dm 16sp tm do stv coll tm 16.dm
there at the time when this was happening

5.2.2.2 The triadic verb and the Stative rule

Given what we have found about the Intrinsic Classification Parameter, i.e., that there are two unrestricted inner roles in Emakhuwa, when the Stative rule applies to triadic verbs, either the recipient/source or the theme may be the subject of the stativized triadic verb. Since the output verb is structurally such that neither of the roles is the object of the other, as happens in passivized triadic verbs, no object marking occurs. Although this rule can apply in triadic verbs, its pragmatic use is rare. Indeed no example of a triadic verb has been recorded from our data.

5.2.3 On the interaction between the Stative and argument adding lexical rules

The main objective of this section is to determine the restrictions of order of sequence between the Stative morpheme and other extension morphemes.

5.2.3.1 The Applicative and Stative

The effect of the Applicative rule on both unergative and unaccusative verbs has been comprehensively discussed in (4.1.1) and (4.1.2.2). One may loosely describe its effect on unergative and unaccusative verbs as *transitivizing*. Since this meets one of the conditions for such verbs to be allowed to serve as input to the Stative rule, it follows that the Applicative rule applies prior to the Stative. On the other hand, not a single case is found in our data or is acceptable to our intuition, in which the stative precedes the applicative (in any of the different roles it may introduce), leading to the exclusion of:

60. *Verb > eya > ela.

In dyadic verbs, however, it appears that there is a positional interchangibility of the two morphemes, naturally with a difference in meaning as a consequence:

61.a [WOONA][ELA]= WOONELA "see"/inst$_{appl}$

Eloola ela ki - noo - on - el - a ncuwa [*]
7.mirror 7dm sp tm see appl tm 5.sun
I use this mirror to see the sun

61.b [WOONA][EYA]= WOONEYA "be visible"

Ncuwa n - nawo - on - ey - a [*]
5.sun 5sp tm see stv tm cp 7.mirror
The sun is visible with the mirror

61.c [WOONELA][EYA]= WOONELEYA: "able to transmit vision"

?Eloola e - nawo - on - el - ey - a [*]
7.mirror 7sp tm see appl stv tm
The mirror can be used for seeing in

61.d [WOONEYA][ELA]= WOONEELA "brighten"

Ncuwa n - nawo - on - ey - el - a [*]
5.sun 5sp tm see stv appl tm
The sun brightens (through something or to somebody)

While (61.c) may be justified by the Intrinsic Classification Parameter, which allows that either the theme or the instrument can stand as subject of a stativized verb form, in real life it is not used unless the Applicative is understood as having the beneficiary role. Instead, Passive is preferred, as in (62):

62. Eloola e - nawo - on - el - iy - a [*]
7.mirror 7sp tm see appl psv tm
The mirror is used for seeing through

The example (61.d) follows perfectly the general rule of Applicative. That is, since the highest theta role of a stativized dyadic verb is theme, the only roles introduced by the Applicative rule must be lower than theme. Hence the locative flavour that can be inferred analytically from wooneela "brighten". In this case the omission of the theme role is also possible by the theme suppression rule.

5.2.3.2 The Causative and the Stative

Logically, the co-occurrence of the Causative lexical rule with that of Stative may be regarded as interchanging the morphemes that index them positionally, according to the order of application. For, given that either rule targets the highest theta role of the input verb, each is independently motivated of the other. This suggests that one can have *stativized* causative verb forms and *causativized* stative verb forms.

Although we have not recorded examples of either sequential order, our intuitive knowledge of the language confirms the above possibility, as may be observed in the following example (63.a-d):

63.a [OTHITA][IHA] < Cause < ag th >> "pound"/Caus.

Nantto naa - m - thit - ih - a nakhuwo Zeena [*]
pN tm 1.om pound cse tm 1.maize pN
Nantto causes Zeena to pound maize

63.b **Zeena naa - thit - ih - ey - a nakhuwo** [*]
pN tm pound cse stv tm 1.maize
Zeena is causable to pound maize

63.c **Nakhuwo naa - thit - ey - a** [*]
maize tm pound stv tm
Maize is poundable

63.d **Nantto naa - m - thit - e - eh - a nakhuwo**
pN tm 1.om pound stv cse tm 1.maize
Nantto turns maize into poundable state

The example (63.d) shows how the features of the Stative rule become blurred in much the same way as the Passive (5.1.2.3), when this is followed by the Causative rule. This is shown by the object marking of

the NP, which re-emerges as though the input verb was not derivatively Stative. This shows the syntactic atomicity principle, which reveals that the head of the word is no longer the Stative but the Causative morpheme.

5.2.3.3 The Reciprocative and the Stative

From the effects of the morpholexical operation of the two rules, it is to be expected that their co-occurrence must be ruled out by the subject well-formedness condition. Indeed, if the Reciprocative rule suppresses the patient rule and binds its trace to the highest theta role of the predicate argument structure, and if this in turn is suppressed by the Stative rule, the verb becomes subjectless. Hence there is no verb. We found, however, two instances in which this co-occurrence is possible; in one, the subject has to be identified with theta roles lower than theme: locative, gender [7/8] and so forth:

64. Va e - he - er - an - ey - a [T7]
16.dm 7sp tm do rcp stv tm
Now the thing has happened

65. Eneeriya mtthu ola
It was said: 1.person 1dm
It was said: this person,

eheehn! va - hi - ir - an - ey - e co [T8]
interj 16.sp ng do rcp stv tm 8.dm
oh! no, let it not happen like this.

In the other the co-occurrence is idiosyncratic, that is, non-analysable:

66. ocuwaneya "be noticeable":

Khureera opuha aahn! oncuwaneya
ng be good 15.enjoy interj
You have had good time, sure, you are noticeable

oneneva n'wo [T10]
15.fat 15.dm
from [your] corpulence

In either case, the reciprocity feature is at least thematically obliterated. That is, even in cases where it is possible to detach analytically the different morphemes from the input verb, the reading of the output is as though the combination was fossilized and/or lexicalized. This suggests that the combinability of these two rules is not productive in Emakhuwa.

5.2.4 The Stative and the Passive

Having analysed the combinations of the different argument adding lexical rules with argument dropping ones, it remains to confront the latter with each other, in order to check whether they can be combined and how they contrast. Since both rules suppress the highest role, it follows that once one rule is applied, the other is excluded. So these rules can never co-occur. Looking, however, at the restrictions of occurrence imposed upon each of them, we find the following facts about them:

(i) The Stative rule cannot be applied to reciprocalized verbs. The Passive can.

(ii) The order of morpheme combination between the Passive rule and the Applicative is fixed. That is, there cannot be applicativized Passives. Stative verb forms can be subject to the rule of Applicative.

(iii) The Passive suppresses the highest theta role but given certain conditions, the suppressed role may be expressed optionally as an oblique function bound to its primitive role. The Stative rule dethematizes the highest role of the thematic structure of the input verb.

They have in common:

(i) the fact that when they apply, object features are manifested only by subjectivization, and one at a time.

(ii) Both Passive and Stative can apply after or prior to Causative rule.

(iii) When they apply to unergative and unaccusative verbs, the only possible subject to the output verb is an NP associated with theta roles hierarchically lower than theme.

5.3 Concluding remarks

The analysis of the morpholexical operations of the lexical rules of Passive and Stative on verbs of different patterns of adicity in Emakhuwa has revealed a different picture of grammatical relations from that observed in the morpholexical operations of lexical rules indexed by argument adding extension morphemes.

While both the Applicative (4.1.3) and the Causative (4.2.3) constructions require that Theme must be classified by default as restricted [+r], from the biuniqueness condition, the Passive (5.1) and the Stative (5.2) maintain the intrinsic classification of Theme as [-r]. In the former group of extension morphemes, the lexical rules yield new verbs whose predicate argument structure has the lexical mapping in which cliticization is licensed to one non-subject NP in gender [1] only. In the lexical rules of Passive and Stative, any non-subject NP, including adjuncts, can be promoted to SUBJ(ect) of the Passive and Stative, but cliticization is no longer viable.

In the light of this, the Asymmetrical Object Parameter, said to depend on whether there is one or more inner theta roles with the intrinsic classifications of [-r], fails to tell us whether, from the facts relating to the Applicative and/or Causative, Emakhuwa is symmetrical or asymmetrical. It fails, because, as established, agreement is determined by gender, rather than by the fact that the theta role lexically instantiated by the NP is intrinsically classified as [-r]. From the facts of Passivization and/or Stativization it could be claimed that, (assuming that cliticization of NPs in gender [1] may be related to objecthood), Emakhuwa is symmetrical. For while there are no thematic restrictions to the subject of passive verbs, the rule of Passive allows only one NP to passivize at a time, while others, (if any), remain restricted, i.e., they do not trigger cliticization. This is symmetrical to the rules indexed by argument adding extensions where only one NP in gender [1] is allowed to cliticize. However, the crux of the matter is that passivization and cliticization are intimately related to the intrinsic classifications of theta roles. These are said to underspecify the grammatical functions, including object. In a language such as Emakhuwa, where thematic hierarchy and the grammatical function object may be overriden by gender and topicality, some of the assumptions of the theory of Lexical Mapping, such as alternative intrinsic classification of theme as [+o], and distinctions between subcategorized theta roles and adjuncts, may not be applicable.

Last but not least, the Mirror principle shown to be reflected in applicative verbs whose input is a passivized Chichewa verb, fails in Emakhuwa data.

In brief, given that the Emakhuwa data appear problematic, inasmuch as the properties of objecthood, word order, cliticization and passivizability are not relevant for some lexical rules to take place, can a theory such as the Lexical Mapping, which relies heavily on these terms of reference, be shown to work for Emakhuwa data?

The previous chapters have provided a partial positive answer to this question. However, it appears that some refinements of certain generalizations of the theory may be necessary, so as to accommodate languages such as Emakhuwa, whose grammar appears rather topic than subject-oriented.

NOTES TO CHAPTER FIVE

1. The verb **othela** "marry" restricts agency to male. Givon (1976) expresses this as "male chauvinistic verb."

2. Although ambiguity cannot be avoided in this example, the gist of it is to check the status of object cliticization when the example is passivized.

3. I am aware of the contradiction to which my data is leading me. Alsina's argument showing that it is possible to have passive followed by an applicative morpheme, provided that the applicative introduces an "applied" locative object, appears to be directly aimed at Baker's claim on how the Mirror principle works in Chichewa, (Baker (1988: pp.14-15, ex. (26.a-c) and (27.a-b)). Essentially, Alsina shows how inadequate the Theta theory and the Case theory, used by Baker, are, compared with the Lexical Mapping theory in the predictions of the Mirror Principle. I use the theory of Lexical Mapping in the description of my data, and yet I come up with results vindicating Baker's predictions. The apparent contradiction is that two theories using data from the same language, Chichewa, come up with different conclusions on the same phenomenon (Alsina (1990) and Baker (1988)), and one theory, the Lexical Mapping theory, used to describe two languages, Emakhuwa and Chichewa, comes up with diverging conclusions on the same phenomenon.

4. Assuming that the Passive suppresses the highest theta role of the input verb this and the following morpholexical operations in the example provided could be simplified by omitting the agent, hence the (ag). Indeed even when there is an embedded Passive, i.e., a "causativized" passive verb form, the agent role is completely *invisible*. However,we maintain the theta roles, in order to show the combinability of the morphemes in question and the way in which the mirror principle is reflected.

5. Lexical availability is a general criterion not applicable uniquely to Stative rule . Indeed, we do not have the Causative of **okhwa** "die" ***okhwiha** "cause to die", for we have available in the lexicon the corresponding verb: **wiiva** "kill".

CHAPTER 6: RETROSPECT AND CONCLUSION

6.0 Introduction

The analysis of extension morphemes in Emakhuwa has unveiled interesting linguistic facts about Emakhuwa verbal morphology and grammatical relations. It has been shown throughout our investigation that extension morphemes are icons of lexical rules. These lexical rules have a morphonological component, a syntactic component and a semantic component, which are encoded in the lexical entry of extension morphemes. This lexical information is then percolated or conveyed to the newly derived or extended verbs, as a result of interaction between the lexical properties of the input matrix verb and the morphemes. What the previous chapters have done, therefore, is to analyse the morpho-syntactic information encoded in these derivational lexical rules through their morphological exponents, i.e., extension morphemes. In this chapter we summarize the findings of this analysis, and comment on their implications for theories of grammar that rely heavily on the traditional manifestations of objecthood, such as the theory of Lexical Mapping.

6.1 On the morphology of extension morphemes and degrees of idiosyncrasy in the lexicon

The analysis of the morphological configurations of verbal extensions in chapter two has shown that extension morphemes, as exponents of lexical rules regulating processes of verbal derivation, form a lexical network. We suggested that the lexical relatedness amongst these extensions goes beyond the binary concept of morpho-semantic lexical relatedness.

Indeed, their amenability to morphological layer ordering reflects lexical relationships that include suppletion, blocking and skewing, whose ultimate function appears to be the optimization of "meaning" or the satisfaction of lexical "need". This clearly indicates three processes of verbal derivation, which may be characterized as lexicalized, restricted and regular. Inasmuch as this characterization is made by relating one set of extension morphemes appearing in a given layer to another set in another layer, or within a single layer, the theoretical implication appears to suggest that lexical idiosyncrasy in the lexicon is a matter of degree. In practical terms, this suggests that the semantic analysis of extension morphemes is much more productive if variables other than purely morpho-semantic are incorporated, e.g.: selectional restrictions, and above all, thematic and/or modal properties of extensions. The thematic properties of extensions allow one to establish, for instance, the scope of grammatical relations between morphologically distinct but semantically convergent extensions. Furthermore, it is possible to compare grammatical relations yielded by lexical rules indexed by extensions, and grammatical relations resulting from similar lexical rules but lacking morphological indexation.

6.2. On the variable polyadicity and Emakhuwa grammar

Two types of rule appear responsible for variable polyadicity in Emakhuwa: the "accusative" construction, the "oblique/subject" inversion and the "indirect relativization" on the one side, and the lexical rules indexed by the thematic extensions on the other. The former appear to form a counter-part system of lexical rules to the latter, inasmuch as they yield some

syntactic features similar to "applicative" and Passive lexical rules. However, observing closely the behaviour of each one of them, substantial differences may be intuitively inferred, that make the "indirect relativization", and "oblique/subject" mechanisms, look less like lexical rules than the "accusative" construction. Unfortunately our research does not investigate the scope of each of these mechanisms so as to find an adequate way of characterizing them against the background of the thematic extensions.

Three main aspects related to the grammatical function OBJ(ect) have surfaced in this research:

(a) restriction of numbers of theta roles that may be grammatically interpreted as objects,
(b) absence of signals of object individuation, and
(c) irrelevance of the grammatical object for certain lexical rules to take place.

The first aspect is what we described as the "object loading" restriction. In brief, this restriction stipulates that no verbal lexical forms may have more than two objects in Emakhuwa, suggesting that *tetradic* predicate argument structures, though theoretically possible, are not grammatically viable. This appears to conform to universals of grammar and indirectly to the biuniqueness condition of well-formedness. Indirectly, because the biuniqueness condition, in its original formulation, (1.2.3.4), or in Bresnan and Moshi's formulation (Bresnan and Moshi 1990)), appears to miss out the restrictedness of the number of theta roles that grammatically may be realized as non-oblique grammatical functions. While the Biuniquenes condition forbids, (in Kichaga as well as in Emakhuwa), that two patient-like theta roles both *surface* as unrestricted

objects, i.e, triggering cliticization, it does not spell out that, by the same token, there cannot be two patient-like theta roles grammatically realized as restricted.

The second and most striking feature of object in Emakhuwa is that none of the criteria for determining objecthood in other Bantu languages works straightforwardly for Emakhuwa data. Features of objecthood such as word order and adjacency have been found not useful criteria for determining objecthood.

Unlike what happens with other Bantu languages, cliticization of NPs in non-subject syntactic position in Emakhuwa is primarily determined by gender. This renders the linking of cliticization to the manifestation of objecthood theoretically untenable. Furthermore, the fact that NPs in gender [1] assigned to theta roles lower than theme may trigger cliticization shows that cliticization is not uniquely manifested by or linked to patient-like theta roles. In other words, cliticization appears to take place not only within but also outside VP constituent. This suggests that thematic hierarchy may not always be respected by cliticization in Emakhuwa.

It is only when gender and thematic hierarchy coincide that cliticization may be said to correlate with the manifestation of objecthood, inasmuch as gender expresses lexical prominence and thematic hierarchy expresses topical prominence. NPs in gender [1] are perceived as higher in lexical prominence than others. Normally, lexically prominent NPs are first candidates for topical prominence. The fact that, given a predicate argument structure with two patient-like theta roles and two NPs in gender [1], both may be

eligible to cliticize but only one is allowed to do so, reflects symmetrical correlation of hierarchical prominence deriving from both gender and thematic structure. But, given two NPs, one of which in gender [-1], in the same environment, only the one in gender [1] will cliticize, illustrating the fact that gender prominence overrides thematic hierarchy. There is therefore a tendency either to avoid the insertion of NPs in gender [1] under grammatical functions at the PP node or, when this happens, to override thematic hierarchy by expressing them as though they were assigned to higher theta roles. This breach of the distinctions between oblique and non-oblique grammatical functions, or between subcategorized theta roles and adjuncts hinges upon the question of whether or not the grammatical functions, taken as primitive terms to the analysis of Emakhuwa syntax, are adequate. Unfortunately there were no concrete proposals advanced towards this end.

The third important aspect of Emakhuwa grammar, closely related to the grammatical function object, is that of passivization and stativization. In chapter five we illustrated the fact that there is no thematic restriction whatsoever on the assignment of the grammatical function subject, once the rule of Passive and the rule of Stative have taken place. This indicates that the grammar of Emakhuwa allows any verbal pattern of polyadicity to be passivized or stativized even when the verb is deprived of its subcategorized theta roles. Theoretically, this appears to point to an alternative approach to grammatical relations in Emakhuwa. In particular, it suggests that the Subject condition of well-formedness (1.2.3.4) needs revision, so as to accommodate cases in which the subject of passive is drawn from non-subcategorized theta roles.

6.3 Conclusion

In our retrospection we have indirectly questioned the adequacy of theories of grammar such as Lexical Mapping, for the description of languages such as Emakhuwa that are, perhaps, to be regarded as topic rather than subject-oriented. It has however, been of considerable value to use a theory such as Lexical-Functional Grammar, which has allowed us to explore the transitivity patterns of both primitive and derived verbs in terms of theta roles and predicate argument structures and the principles of their mapping onto grammatical functions. Our work has been appreciably facilitated by the fact that this theory has already been applied to languages of the same family as Emakhuwa. We were also stimulated by a work attempting to systematize functions of Bantu transitivity.

The principle difficulty we have had with this theory concerns the intrinsic classification of theta roles, and arises from the ill-defined nature of objecthood and the unclear boundaries between primary and secondary object, and object and oblique. It is to be hoped that further comparative study, for instance, a closer look at the Elomwe variety of Emakhuwa spoken in some parts of Malawi neighbouring Chichewa, might clarify these notions and enable the disparate features of Chichewa and Emakhuwa to be embraced within an extended theory.

Any study in this area should take into account the full range of thematic extensions. Failure to do this may overlook apparent contradictions, such as we found between the applicative (in its benefactive reading) and the passive, where the former allows only the beneficiary to cliticize, making the theme restricted,

while the latter admits both theme and beneficiary as subject. It should also take fully into account all readings of each extension, in order to express the full complementary network of lexical processes, illustrated by the transitivizing features of the reciprocative (in its comitative reading) and the causative.

Finally, perhaps our major contribution in this work will lie in having brought to light some parametrical variations in Bantu transitivity displayed by Emakhuwa grammar. The lack of explicit marks of object individuation and the facts relative to passivization and stativization make Emakhuwa, which does not use case to indicate syntactic functional distribution of NPs, a configurational language with syntactic properties challenging linguistic theories of grammar. We hope, therefore, that this work has brought more firewood to the debate on the nature of grammatical relations in language.

BIBLIOGRAPHY

Abdulaziz, M.H., 1976: *Transitivity Patterns in the Swahili Clause* Ph.D., University of London

Abraham, W., 1978: "Valence and case: remarks on their contribution to the identification of grammatical relations", in Abraham, W., ed., (1978) *Valence, Semantic Case and Grammatical Relations* (Studies in Language Comparison Series, 1), Amsterdam: Benjamins. [695-729]

Aissen, J., 1982: "Valence and coreference", in Hopper, P.J. and Thompson, S.A, eds. (1982) *Studies in Transitivity* (Syntax and Semantics, 15). New York: Academic Press.[7-36].

Allerton, D., 1982: *Valence and the English verb*, New York: Academic Press

Alsina, A. 1990: "Where is the Mirror Principle? evidence from Chichewa" GLOW colloquium. Cambridge, April 1990.

Alsina, A. and Mchombo, S.A. 1988: "Lexical mapping in the Chichewa applicative construction", paper presented to the Summer Working Group on Argument Structure and Syntax, CSLI, Stanford University.

Alsina, A. and Mchombo, S.A. 1989: "Object Asymmetries and the Chichewa applicative construction", paper presented at the Working Group on Argument Structure and Syntax at Stanford University.

Amritavalli, R., 1979: "The representation of transitivity in the lexicon", *Linguistic Analysis*, 5:1. [71-92].

Anderson, J.M., 1984: "Objecthood", in Plank, F., ed. (1984) *Objects: Towards a Theory of Grammatical Relations*. London: Academic Press. [29-54].

Anderson, S.R., 1982: "Where's morphology?" *Linguistic Inquiry* 13:4. [571-621]

Anderson, S.R., 1985: "Typological distinctions in word formation" in Shopen, T. ed., (1985), *Language Typology and Syntactic Description* (Grammatical Categories and the Lexicon III). Cambridge: University Press. [3-56].

Aronoff, M., 1976: *Word Formation in Generative Grammar* Cambridge, Ma.: MIT Press.

Bach, E., 1980: "In defence of passive" *Linguistics and Philosophy*, 3. [297-341].

Baker, M.C., 1985: "The Mirror Principle and morphosyntactic explanation", *Linguistic Inquiry*, 16:3. [373-415].

Baker, M.C., 1988: *Incorporation: a Theory of Grammatical Function Changing*. Chicago and London: University of Chicago Press.

Barber, E.J.W., 1975: "Voice beyond the passive" in *Berkeley Linguistic Society* 1. [16-24]

Bleek, W.H.J., 1856: *The Languages of Mosambique. Vocabularies of Dialects... drawn up from the Manuscripts of Dr. Wm. Peters... and from other Materials*. London: Harrison and sons.

Bolkenstein, A.M.et al. eds., 1981: *Predication and Expression in Functional Grammar*. London: Academic Press.

Bolkenstein, A.M.et al. eds., 1985: *Predicates and Terms in Functional Grammar*. London: Academic Press.

Borlinger, D. 1977: "Transitivity and spatiality: the passive of prepositional verbs", in Makkai, A., et al. eds. (1977) *Linguistics at crossroads*. Lake Bluff, Illinois: Jupiter Press. [57-78]

Bresnan, J., ed., 1982a: *The Mental Representation of Grammatical Relations*. Cambridge, Ma.: MIT Press.

Bresnan, J., 1982b: "Control and complementation", in Bresnan, (1982a). [282-390].

Bresnan, J., 1982c: "Polyadicity", in Bresnan, (1982a). [149-179]. **(See addenda, pp. 410)**

Bresnan, J., 1982d: "The Passive in lexical theory", in Bresnan, (1982a). [3-86]

Bresnan, J., 1988: "The design of grammar", paper presented at the Interdisciplinary Conference Women on the Frontiers of Research, in celebration of the Centennial of Clark University, Stanford University, Xerox Palo Alto Research Center

Bresnan, J. 1990a: "The syntactic projection problem and the comparative syntax of locative inversion", in *Journal of Information Science and Engineering* (special issue devoted to the Proceedings of ROCLING II, Taiwan, 1989). Taiwan: Institute of Information Science, Academia Sinica.

Bresnan, J. 1990b: "Levels of representation in locative inversion: a comparison of English and Chichewa". Stanford University and Xerox Palo Alto Research Center.

Bresnan, J. and Kanerva, J. 1989: "Locative inversion in Chichewa: a case study of factorization in grammar", in *Linguistic Inquiry* 20:1, MIT.

Bresnan, J. and Kanerva, J. (forthcoming): "The thematic hierarchy and locative inversion in U.G. A reply to Paul Schachter's comments", in E. Wehrli and T. Stowell, eds., *Syntax and the Lexicon* (Syntax and Semantics 24): New York: Academic Press.

Bresnan, J. and Kaplan, R.M., 1982: "Grammars as mental representations of language", in Bresnan, (1982a). [Introduction].

Bresnan, J. and Mchombo, S.A. 1986: "Grammatical and anaphoric agreement", in Farley, A.M. et al., eds. (1986) *CLS 22 Part 2: Papers from the Parasession on Pragmatics and Grammatical Theory at 22nd Regional Meeting*, Chicago Linguistic Society, Illinois. [278-297].

Bresnan, J., and Mchombo, S.A. 1987: "Topic, pronoun and agreement in Chichewa", *Language* 63. [741-782]

Bresnan, J. and Mchombo, S.A. 1989: "On the syntax of Bantu noun class prefixes", paper presented at the 20th African Linguistics Conference, University of Illinois at Urbana-Champaign

Bresnan, J. and Moshi, L. 1988: "Applicatives in Kivunjo (Chaga): implications for argument structure and syntax", ms. Stanford University and Xerox Palo Alto Research Center

Bresnan, J. and Moshi, L. 1990: "Object asymmetries in comparative Bantu syntax", in *Linguistic Inquiry*, 21:2. MIT. [147-185].

Bresnan, J. and Zaenen, A. 1990: "Deep unaccusativity in LFG", in *Proceedings of the 5th Biennial Conference on Grammatical Relations*, University of California, San Diego.

Bruce, L. 1983: "Subject as a conflation of role and topicality factors", in *Studies in Language*, 7. [1-24].

Cabral, A.A.R., 1924: *Vocabulary Português, Shironga, Shitsua...Kikua*, Lourenço Marques: Imprensa Nacional.

Cann, R., 1983: "Raising in Latin: a phrase structure analysis of the accusative and infinitive", in Gazdar, G. et al. eds., *Order, Concord and Constituency* (Linguistic Models, 4). Foris Publications. [116-120].

Carnochan, J. 1970: "Categories of the verbal piece in Bachama", in *African Language Studies*, 11. [81-122]

Carter, R. 1976: "Some linking regularities", in *Recherches Linguistiques* 3-4, Universite de Vincennes, Paris.

Castro, F.M. de, 1933: *Apontamentos sobre a Lingua Makua, Gramatica, Vocabulario, Contos e Dialectos de Angoche*. Lourenço Marques: Imprensa Nacional.

Cheng, C.C. and Kisseberth C.W., 1979-81: "Ikorovere Makua tonology", *Studies in Linguistic Sciences* (Urbana). 1:9, [31-63]; 2:10, [15-44]; 3:11, [181-202].

Chomsky, N. 1981: *Lectures on Government and Binding*, Foris, Dordrecht

Chomsky, N., 1965: *Aspects of the Theory of Syntax*, Cambridge, MIT.

Chomsky, N., 1986: *Knowledge of Language: its Nature, Origin, and Use*, Praeger, New York.

Clements, N.G. 1985: "The problem of transfer in nonlinear morphology", in *Cornell Working Papers in Linguistics*, 7.

Cole, P. and Sadock, J.M. eds., 1977: *Grammatical Relations* (Syntax and Semantics, 8). New York: Academic Press.

Comrie, B., 1975: "Polite plurals and predicate agreement", *Language* 51:2. [406-418].

Comrie, B., 1976: "The syntax of causative constructions: cross-language similarities and divergencies", in Shibatani, (1976). [261-312].

Comrie, B., 1982: "Grammatical relations in Huichol", in Hopper, P.J. and Thompson, S.A, (1982). [95-116].

Comrie, B., 1985: "Causative verb formation and other verb-deriving morphology", in Shopen, (1985). [309-347].

Cooper, R., 1976: "Lexical and nonlexical causatives in Bantu", in Shibatani, (1976). [313-324].

Corbett, G.G. and A.D. Mtenje, 1987: "Gender agreement in Chichewa, in *Studies in African Linguistics* 18:1. [1-38].

Corbett, G.G., 1979: "The agreement hierarchy", *Journal of Linguistics* 15:2. [203-226].

Corbett, G.G., 1983: "Resolution rules: agreement in person, number and gender", in Gazdar, G., Klein, and G.K. Pullum eds., *Order, Concord and Constituency.* (Linguistic Models, 4) Dordrecht: Foris [175-206].

Coupez A., 1985: "La derivation verbale en Rwanda (Bantoue J61)", in *Le KinyaRwanda, Etude de Morpho-syntaxe.* Ed. Yves Cadiou, Paris.

Dalgish, G., 1976: "Locative NPs, locative suffixes and grammatical relations", in *Proceedings of the 2nd Annual Meeting of the Berkeley Linguistics Society*. [139-148]

Dalgish, G., 1976: "Passivizing locatives in Olutsootso", in *Studies in Linguistic Sciences*, 6:1. [57-86].

DeLancey, S., 1984: "Notes on agentivity and causation", in *Studies in Language* 81. [181-213].

Demuth, K. 1989: "Locatives, impersonals and expletives in Sesotho" paper presented at the 20th Annual Conference on African Linguistics, University of Illinois, Urbana-Champaign

Demuth, K. and Johnson, M. (to appear) "Interaction between discourse functions and agreement in Setawana" in *Journal of African Languages and Linguistics*.

Dik, S.C., 1978: *Functional Grammar*, (North-Holland Linguistic Series, 37). Amsterdam, North-Holland.

Dik, S.C., 1980: *Studies in Functional Grammar*, Institute for General Linguistics, The North-Holland: Academic Press.

Dik, S.C., 1985: "Formal and semantic adjustment of derived constructions" in Bolkestein, A.M. et al., eds (1985).

Di Sciullo, A.M. and Williams, E., 1987: "On the definition of word", *Linguistic Inquiry Monographs*, 14. Cambridge, Ma.: MIT Press.

Dixon, R.M.W., 1979: "Ergativity", *Language* 55:1. [59-138]

Doke, C.M., 1935: *Bantu Linguistic Terminology.* London

Doke, C.M., 1973: *Textbook of Zulu Grammar*, 6th ed., 6th impression, Longman Southern Africa

Dressler, W.U., 1985: *Morphology: the Dynamics of Derivation*, Karoma Publishers, Inc., Ann Arbor, [219]

Dryer, M., 1982: "In defense of a universal passive", in *Linguistic Analysis* 10:1. [53-60]

Dryer, M., 1982: "Passive and inversion in Kannada", in *Berkeley Linguistic Society* 8. [311-321]

Dubinsky, S. and Lloret, M-R. and Newman, P. 1988: "Lexical and syntactic causatives in Oromo", in *Language*, 64:3. [485-500]

Duncan, J.C., 1983: "The representation of grammatical relations in a nonconfigurational language", ms; Ruthgers University, Camden, New Jersey.

Duncan, J.C., 1985: "Linking of thematic roles in derivational word formation", in *Linguistic Inquiry*, 16:1. [1-34]

Duranti, A., 1979: "Object clitic pronouns in Bantu and the topicality hierarchy", in *Studies in African Linguistics* 10:1. [31-45].

Eastman, C.M., 1967: *An Investigation of Verbal Extensions in Kenya Coastal Dialects of Swahili with Special Emphasis on Kimvita.* PhD. at the University of Wisconsin, Language and Literature, Linguistics.

Filmore, C. 1968: "The case for case", in E. Bach and R.T. Harms, eds. (1968) *Universals in Linguistic Theory*, Holt, Rinehart and Winston, New York.

Foley, W. and R. Van Valin, 1984: *Functional Syntax and Universal Grammar.* Cambridge University Press. Cambridge.

Frajzyngier, Z. 1982: "Indefinite agent, passive and impersonal passive", in *Lingua* 58. [267-290].

Frantz, D.G., 1981: *Grammatical Relations in Universal Grammar*, Bloomington, Indiana: Indiana University Linguistics Club.

Gary, J.O. and Keenan, E.L., 1977: "On collapsing grammatical relations in universal grammar", in Cole, P. and Sadock, J.M., (1977). [83-120]

Gary, J.O., 1977: "Implications for universal grammar of object-creating rules in Luyia and Mashi", in *Studies in African Linguistics,* Supplement 7. [85-95].

Gazdar, G., 1981: "Unbounded dependency and coordinate structure", in *Linguistic Inquiry*, 12:2. [155-184].

Gazdar, G. et al., eds., 1983: O*rder, Concord and Constituency,* (Linguistic Models, 4). Foris Publications.

Gil, D., 1984: "On the notion of "direct object" in patient prominent languages" in Plank. F., (1984). [88-108].

Givon, T., 1969: "Studies in ChiBemba and Bantu grammar", in *Studies in African Linguistics,* Supplement 3, African Studies Center, University of California, Los Angeles.

Givon, T., 1970: "The resolution of gender conflicts in Bantu conjunction: when syntax and semantics clash",in *Papers from the 6th Regional Meeting*, Chicago Linguistic Society. Chicago: Linguistic Society, University of Chicago. [250-261]

Givon, T., 1971: "Historical syntax and synchronic morphology: an archeologist field trip" in *Papers from the 7th Regional Meeting.* Univ. of Chicago: Chicago Linguistic Society, 7, [394-415].

Givon, T., 1976: "Some constraints on Bantu causativization", in Shibatani, (1976). [325-352]

Givon, T., 1982: "Transitivity, topicality and Ute impersonal passive", in Hopper, P.J. and Thompson, S.A, (1982). [143-160].

Gregoire, C., 1975: *Les Locatifs en Bantoue*, Tervuren: Musee Royal de l'Afrique Centrale. (Annales, serie In-8, no. 83).

Gruber, J.S., 1976: *Lexical Structure in Syntax and Semantics*, Linguistic Series, 25, Amsterdam: North-Holland Publishing company

Guthrie, M., 1948a: "Gender, number and person in Bantu languages", in *Bulletin of the SOAS* 17:3-4. [848-856].

Guthrie, M., 1948b: *Classification of the Bantu Languages*, Oxford University Press for the International African Institute.

Guthrie, M., 1956: "Observations on nominal classes in Bantu languages", in *Bulletin of the SOAS* 18: 3. [545-555].

Guthrie, M., 1961: *Bantu Sentence Structure*, SOAS, University of London.

Guthrie, M. 1962: "The status of radical extensions in Bantu languages", in *Journal of African Languages*, 1:3. [202-220]

Guthrie, M., 1967-71: *Comparative Bantu: an Introduction to the Comparative Linguistics of the Bantu Languages* [4 vols.]. Farnborough, Hants., Gregg International.

Haegman, L., 1987: "The interpretation of inherent objects in English" in *Australian Journal of Linguistics*, 7:2. [223-248].

Haig, H.A., 1982: "Passivization in modern western Armenian", in Hopper, P.J. and Thompson, S.A (1982). [161-175].

Haiman, J. 1976: "Agentless sentences", in *Foundations of Language* 14:1. [19-50].

Halle, M., 1973: "Prolegomena to a theory of word formation", in *Linguistic Inquiry*, 4:1. [3-16]

Halliday, M.A.K., 1967-8: "Notes on transitivity and theme in English", in *Journal of Linguistics* 3:1, 37-81; *JL* 3:2, 199-244; *JL* 4:2, 179-215.

Halliday, M.A.K., 1969: "Options and functions in the English clause", in BRNO *studies in English*, 8.

Harford, C.H., 1988: "Locative inversion in Chishona" paper presented at the 19th Annual African Linguistics Conference: Boston University

Harries, L., 1970: "The phrasal predicate in Swahili", in *African Language Studies*, 11. [191-210].

Hawkinson, A. and Hyman, L. 1974: "Hierarchies of natural topic in Shona", in *Studies in African Linguistics*, 5. [147-170].

Henk van R. and Williams, E., 1986: *Introduction to the Theory of Grammar,* (Current Studies in Linguistics Series). Cambridge, Ma.: MIT Press.

Hinnebusch, T. and R. Kirsner, 1980: "On the inference of inalienable possession in Swahili", in *Journal of African Languages and Linguistics*, 2:1. [1-16].

Hockett, C. 1947: "Problems of morphemic analysis", in *Language* 23. [321-343].

Hodges, K.S. 1977: "Causatives, transitivity and objecthood in Kimeru", in *Studies in African Linguistics,* Supplement 7. [113-125].

Hoeksema, J. 1985: *Categorial Morphology*, Garland Publishing, Inc.- New York and London.

Hoekstra, T., 1984: "Grammatical relations in Government and Binding Theory", in *Transitivity* (Linguistic Models, 6), Dordrecht-Holland: Foris Publications.

Hopper, P.J. and Thompson, S.A: 1980: "Transitivity in grammar and discourse", in *Language*, 56. [251-299].

Hopper, P.J. and Thompson, S.A eds., 1982: *Studies in Transitivity* (Syntax and Semantics, 15). New York: Academic Press.

Horn, G.M., 1979: *A Lexical Interpretive Approach to Some Problems in Syntax*. Bloomington, Indiana: Indiana University Linguistics Club.

Horn, G.M., 1983: "Argument reduction", in *Linguistic Analysis*, 12:4. [339-378]

Hudson, R.A., 1977: "The power of morphological rules", in *Lingua*, 42. [73-89].

Hutchins, W.J., 1971: *The Generation of Syntactic Structures from a Semantic Base*, Amsterdam-London: North-Holland Publishing Company.

Hyman, L. and Duranti, A., 1982: "On the object relation in Bantu", in Hopper, P.J. and Thompson, S.A, (1982). [217-240]

Jackendoff, R., 1972: *Semantic Interpretation in Generative Grammar*, MIT Press, Cambridge, Ma.

Jackendoff, R. 1975: "Morphological and semantic regularities in the lexicon", in Language, 51. [639-671].

Jackendoff, R. 1987: "The status of thematic relations in linguistic theory", in *Linguistic Inquiry*, 18:3. [369-411].

Jensen, T.J., and Stong-Jensen, M. 1984: "Morphology is in the lexicon" in *Linguistic Inquiry*, 15:3. MIT. [474-497]

Jensen, T.J., 1990: "Morphology: word structure in Generative Grammar". *Current Issues in Linguistic Theory Monographs* 70, Amsterdam: John Benjamins Publishing Company.

Johnson-Laird, P.N., 1971: "The interpretation of the passive voice", in *Quarterly Journal of Psychology*, 20. [69-73].

Johnston, Sir H.H, 1919-22: *A Comparative Study of the Bantu and Semi-Bantu Languages* [2 vols.] Oxford: Clarendon Press.

Kaplan, R.M. and Bresnan, J., 1982: "Lexical-functional Grammar: a formal system for grammatical representation", in Bresnan, (1982a). [173-281].

Katupha, J.M.M., 1983: *A Preliminary Description of Sentence Structures in the E-Saaka Dialect of Emakhuwa*, MPhil Thesis, SOAS, University of London.

Keach, C.B., 1985: *The Syntax and Interpretation of the Relative Clause Construction in Swahili*, ed. Jorge, H., University of California, St.Cruz.

Keren, P., 1985: "On the placement of inflection", in *Linguistic Inquiry*, 16:1. [155-161]

Kimenyi, A., 1980: *A Relational Grammar of KinyaRwanda*. Berkeley: University of California Press.

Kiparsky, P., 1983: "Word-formation and the lexicon", in Ingemann, ed., *Proceedings of the 1983 Mid-America Linguistics Conference*, University of Kansas, Lawrence, Kansas.

(See addenda, pp. 410)

Kisseberth, C.W. and Abasheik, I.M., 1977: "The object relationship in ChiMwi:ni, a Bantu language", in Cole, P. and Sadock, J.M.,(1977). [179-218].

Koelle, S.W., 1854: *Polyglotta Africana: a Comparative Vocabulary; Nearly Three Hundred Words and Phrases in More Than One Hundred Distinct African Languages*. London, Church Missionary House.

Langacker, R.W. and Munro, P.M., 1975: "Passives and their meaning", in *Language*, 51:4. [789-830].

Lapointe, S.G., 1980: *A Theory of Grammatical Agreement*, University of Massachusetts.

Lapointe, S.G., 1981: "General and restricted agreement phenomena", in Morgart, M. et al.(1981). [125-159].

Last, J.T. 1886: *Polyglotta Africana Orientalis*, London, SPCK.

Lehrer, A., 1974: *Semantic Fields and Lexical Structure*, North-Holland Linguistic Series, Amsterdam. North-Holland Publ. Company.

Lieber, R., 1980: *On the Organization of the Lexicon*, Doctoral dissertation. MIT, Cambridge, Ma.

Lieber, R., 1981: "Morphological conversion within a restrictive theory of the lexicon", in Morgart, M. et al. (1981). [161-200]

Lieber, R., 1983: "Argument linking and compounds in English", in *Linguistic Inquiry*, 14:2. MIT [251-285]

Lyons, J., 1968: *Introduction to Theoretical Linguistics*, Cambridge University Press, London.

Lyons, J., ed., 1970: *New Horizons in Linguistics* Harmondsworth, Penguin Books.

Machobane, M. 1989: *Some Restrictions on the Sesotho Transitivizing Morphemes*, Ph.D., Department of Linguistics, McGill University, Montreal, Quebec.

Mackenzie, J.L., 1985: "Nominalization and valency reduction", in Bolkenstein et al. eds., (1985): [29-47].

Mapanje, J.A.C., 1983: *On the Interpretation of Aspect and Tense in Chiyao, Chichewa and English*, Thesis, Ph.D., University College, London.

Maples, C., 1879: *Collections for a Handbook of the Makua Language*. London, SPCK.

Marantz, A.P., 1984: "On the nature of grammatical relations", *Linguistic Inquiry Monograph* 10. Cambridge, Ma.: MIT Press.

Mathews, P.H., 1970: "Recent developments in morphology", in Lyons, J. ed., (1970). [96-114].

Mathews, P.H., 1972: *Inflectional Morphology*, Cambridge University Press.

Mathews, P.H., 1974: *Morphology: an Introduction to the Theory of Word Structure*, Cambridge University Press.

Matos, A.V. de, 1974: *Dicionario Português-Macua*. Lisboa, Junta de Investigaçoes do Ultramar.

Maugham, Sir R.C.F., 1905: *A Handbook of Chi-Makua Language*. Dar-Es-Salaam Museum Collection of Africana.

Maw, J., 1970: "Some problems in Swahili clause structure, in *African Language Studies*, 11. [257-265].

Maw, J., 1976: "Focus and the morphology of the Swahili verb". In *BSOAS*, 39. [389-402].

McCarthy, J.J., 1981: "A prosodic theory of nonconcatenative morphology", in *Linguistic Inquiry*, 12:3.

McClosky, J., 1983: "VP in a VSO language?", in Gazdar, G., et al., (1983)

Mchombo, S.A., 1978: *A Critical Appraisal of the Place of Derivational Morphology Within Transformational Grammar, Considered with Primary Reference to Chichewa and Swahili*, Ph.D, University of London, SOAS.

Mchombo, S.A., 1980: "Dative and passive in Chichewa: an argument for surface grammar", in *Linguistic Analysis*, 6:2. [97-113].

Mchombo, S.A. and Mtenje, A.D., 1982: "Noncyclic grammar", in *Linguistic Analysis*, 11:2. [219-236].

McIntosh, M., 1984: *Fulfulde Syntax and Verbal Morphology*, Boston: KPI

Meinhof, C., 1908: "Linguistiche studien in ostafrika, 14. Makua". *Mitthelungen des Seminars für Orientyalische Studien, Dritte Abtheilung* 11. [85-131].

Mohanan, K.P., 1982: "Grammatical relations and clause structure in Malayalam" in Bresnan, (1982a). [504-589].

Mohand, G., 1983: "A Lexical approach to word formation in English", in *Linguistic Analysis*, 12:3. [183-243].

Moore, R.A.C., 1966: *Verbal Derivation in Swahili*, Ph.D., University of Texas.

Morgart, M. et al. eds., 1981: *The Scope of Lexical Rules* (Linguistic Models 1). Foris Publications. Dordrecht - Holland.

Moravcsik, E.A., 1978: "On the distribution of ergative patterns", in *Lingua*, 45. [233-279].

Morolong, M. and L.Hyman, 1977: "Animacy, objects and clitics in Sesotho", in *Studies in African Linguistics*, 8:3. [199-218].

O'Grady, W.O., 1980: "The universal characterization of passivization", in *Linguistic Analysis*, 6:1. [393-405].

O'Neill, H.E., 1881: "On the coast lands and some rivers and ports of Mozambique", *Proceedings of the Royal Geographical Society*, 4, 10. [595-605]

Perlmutter, D.M. and Postal, P.M., 1977: "Toward a universal characterization of passivization", in *Berkely Linguistic Society*, 3. [394-417].

Perlmutter, D.M., 1983: *Studies in Relational Grammar*, Chicago: Chicago University Press.

Pesetsky, D., 1985: "Morphology and logical form", in *Linguistic Inquiry*, 16:2. [193-246].

Pinker, S., 1981: "A theory of the acquisition of lexical interpretive grammars", in Bresnan, (1982a). [655-726].

Plank, F., ed., 1979: *Ergativity: Towards a Theory of Grammatical Relations*. London: Academic Press.

Plank, F., ed., 1984: *Objects: Towards a Theory of Grammatical Relations*. London: Academic Press.

Prata, A.P. 1960: *Gramatica da Lingua Macua (e Seus Dialectos)*. Cucujaes: Sociedade Missionaria Portuguesa.

Prata, A.P., 1973: *Dicionario Português-Macua.* Cucujaes: Sociedade Missionaria Portuguesa.

Pullum, G.K., 1980: "Syntactic relations and Linguistic universals", in *Transations of the Philological Society*, 1. [1-39].

Radford, A., 1981: *Transformational Syntax: A Student's Guide to Chomsky's Extended Standard Theory*, Cambridge Textbooks in Linguistics.

Rankin, D.J. 1886: *Arabe Tales Translated from Swahili Language into the Tugulu Dialect of the Makua Language, Together with Comparative Vocabularies of Five Dialects of the Makua Language* London: SPCK, [XV] +46pp.

Rappaport, M., 1980: "On the derivation of derived nominals", *ms.* MIT, Cambridge, Ma.

Robert, F.P. and Kenneth, N.S., 1982: "Morphophonemics of Swahili verb suffixes", in *Studies in African Linguistics*, 13:3. [249-271].

Roberts, L. and Wolontis, M. 1974: "Conjunction and concord in Bantu", in Voeltz, E. ed., *3rd Annual Conference on African Linguistics.* Indiana University Publications, African Series, 7. [231-242].

Roeper, T., 1987: "Head-complement relation", in *Linguistic Inquiry*, 18:2, [267-310].

Sacramento, J.V. do, 1904-5: "Apontamentos sobre a lingua Macua", in *Boletim de Sociedade de Geografia de Lisboa, Serie*: 22:1, [329-38]; 22:2, [361-66]; 23:1, [40-52]; 23:3, [125-31]; 23:4, [187-96]; 23:7, [263-72]; 23:8, [300-07]; 23:9, [337-44]; 23:10, [368-81].

Saeed, J.I., 1987: *Somali Reference Grammar*, Dunwoody Press, Box 1825, Wheaton, MD 20902.

Salt, H., 1814: *A Voyage to Abyssinia, and Travels into the Interior of that Country... in the Years 1809 and 1810; in Which Are Included an Account of the Portuguese Settlements on the East Coast of Africa...Together with Vocabularies...* (London, W. Bulmer and Co., Cleveland Row, St. James's) [especially chs.1 and 3 and app.1]

Schachter, P. 1977: "Reference-related and role-related properties of subjects", in Cole, P. and Sadock, J.M., (1977). [279-306].

Schachter, P., 1973: "Focus and relativization", in *Language*, 49:1. [19-46]

Scotton, C.M.M., 1967: *Aspects of the Swahili Extended Verb System with Special Reference to Some Deep Structure Syntactic and Semantic Restrictions*, Ph.D., The University of Wisconsin.

Selkirk, E.O., 1982: "The syntax of words", *Linguistic Inquiry Monograph*, 7, Cambridge, Ma.: MIT Press,

Shepardson, K.N., 1986: *Productivity and the Swahili Lexicon*, Ph.D., Indiana University.

Shibatani, M., 1975: *A Linguistic Study of Causative Constructions*, Bloomington, IULC.

Shibatani, M., ed., 1976: *The Grammar of Causative Constructions,* (Syntax and Semantics, 6). New York: Academic Press.

Shibatani, M., 1976: "The grammar of causative constructions: a conspectus", in Shibatani, (1976). [1-40].

Shibatani, M., 1977: "Grammatical relations and surface cases", in *Language* 53. 789-809.

Shibatani, M., 1985: "Passives and related constructions: a prototype analysis", in *Language*, 61. 821-848.

Shibatani, M. and Kageyama, T., 1988: "Word formation in a modular theory of grammar: postsyntactic compounds in Japanese", in *Language*, 63:3.

Shopen, T. ed., 1985: *Language Typology and Syntactic Description* (Grammatical categories and the lexicon III). Cambridge: University Press.

Sinha, A.K., 1974: "How passives are passives", in *Chicago Linguistic Society* 10, [631-642].

Smith, L.R., 1982: "An analysis of affixal verbal derivation and complementation in Labrador Inuttut", in *Linguistic Analysis*, 10:2. [161-190].

Soveral, A.C., 1887: *Breve Estudo Sobre a Ilha de Moçambique Acompanhado d'um Pequeno Vocabulario Portuguez-Makua*. Porto: Livraria Chardon.

Speed H.K. and Stucky, S.U., 1979: "On the inadequacy of grammatical relations in Bantu", in *Studies in the Linguistic Sciences*, 9:2. [91-99].

Steiner, G., 1979: "The intransitive-passival conception of the verb in languages of the Ancient Near East", in Plank, F., (1979). [185-216]

Stong-Jensen, M., 1983: "A lexical rule for derived stems in Icelandic", paper presented at the Annual Meeting of the Canadian Linguistic Association, Vancouver, B.C.

Stucky, S.U., 1976: "Locatives as objects in Tshiluba: a function of transitivity", in *Studies in the Linguistic Sciences*, 6:2. [174-202].

Stucky, S.U., 1981: *Word Order Variation in Makua: A Phrase Structure Grammar Analysis*, Doctoral Dissertation, department of Linguistics, the University of Illinois at Urbana-Champaign.

Stucky, S.U., 1983: "Verb phrase constituency and linear order in Makua", in Gazdar, G. et al., (1983). **(See addenda, pp. 410)**

Sugamoto, N., 1982: "Transitivity and objecthood in Japanese", in Hopper, P.J. and Thompson, S.A, (1982). [423-448].

Talmy, L., 1985: "Lexicalization patterns: semantic structure in lexical forms" in Shopen, T., (1985). [57-149].

Trithart, L., 1976: *Relational Grammar and Chichewa Subjectivization Rules*, M.A. dissertation, UCLA

Truitner, N., 1979: "Topicality: an alternative to the relational view of the Bantu passive", in *Studies in African Linguistics*, 10:1. [1-30].

Tsunoda, T., 1985: Remarks on transitivity, in *Journal of Linguistics*, 21. [385-396].

Tuyn, H., 1970: Semantics and the notion of transitivity in passive conversion", in *Studia neophilologica*, 42. [60-71].

Vet, C., 1985: "Passive, reflexive and causative predicate formation in French", in Bolkenstein A.M. et al. eds. (1985). [49-69].

Voeltz, E., 1976: "Inalienable possession in Sotho", in *Studies in African Linguistics,* Supplement, 6. [255-266].

Wald, B., 1975: "Animate concord in northeast coastal Bantu: its linguistic and social implications as a case of grammatical convergence", in *Studies in African linguistics*, 6:3. [267-314].

Wald, B., 1979: "The development of Swahili object marker: a study in the interaction of syntax and Ddscourse", in Givon, T. ed. (1979) *Discourse and Syntax* (Syntax and Semantics, 12). New York: Academic Press.

Watters, J.R., 1985: "The place of morphology in Functional Grammar: the case of the Ejagham verb system", in Bolkenstein, A.M. et al. eds. (1985). [85-104].

Weiner, J. and Labov, W., 1983: "Constraints on the agentless passive", in *Journal of Linguistics*, 19. [29-58].

Werner, A. 1901: "A vocabulary of the Lomwe dialect of Makua (Mozambique)", in *Journal of African Studies*, 1. [236-251].

Werner, A. 1919: *Introductory Sketch of the Bantu Languages*, London (Kegan Paul).

Whiteley, W.H., 1968: *Some Problems of Transitivity in Swahili*, London, SOAS, University of London.

Whiteley, W.H., 1970: "Notes on the syntax of the passive in Swahili", in *African Language Studies*, 11. [391-404].

Williams, E., 1980: "Argument structure and morphology", in *The Linguistic Review*, 1. [81-114].

Williams, E., 1980: "Predication", in *Linguistic Inquiry*, 11:1. [203-238].

Williams, E., 1981: "On the notions "lexically related" and "head of a word"", in *Linguistic Inquiry*, 12:2, [245-274].

Williams, E., 1982: "Another argument the passive is transformational", *Linguistic Inquiry*, 13. [160-163].

Woodward, R.H.W., 1926: "An outline of Makua grammar", *Bantu Studies* 2. [269-325].

Zubizarreta, M.L., 1985: "The relation between morphophonology and morphosyntax: the case of Romance causatives", in *Linguistic Inquiry*, 16:2. [247-289].

ADDENDA

Bresnan, J., 1977: "Variable in the Theory of Transformations", in P. Culicover, T. Wasow and A. Akmajian eds., [157-196]

Bresnan, J., 1978: "A realistic Transformational Grammar", in Halle, Bresnan and Miller eds., *Linguistic Theory and Psychological Reality*, MIT Press, Cambridge, Ma. [1-59].

Bresnan, J., 1980: "Polyadicity: Part I of a Theory of Lexical rules and Representations" in Hoekstra, van Hulst and Moortgart eds., *Lexical Grammar*, Foris, Dordrecht [97-121] [revised as "Polyadicity": see page 389]

Kiparsky, P., 1987: "Morphology and Grammatical Relations", ms. Stanford University, Stanford, California

Kiparsky, P., 1988: "Agreement and Linking Theory", ms., Department of Linguistics, Stanford University, Stanford, California.

Mchombo, S.A., 1989: "On the Binding of the Reflexive and Reciprocal in Chichewa", ms., Department of Linguistics, University of California, Berkeley.

Stucky, S.U., 1985: *Order in Makua Syntax*, Hankamer, G. ed., Garland Series, Unversity of California, Sta. Cruz